#### **BUYER'S GUIDE: 117 COMPUTER SYSTEMS**



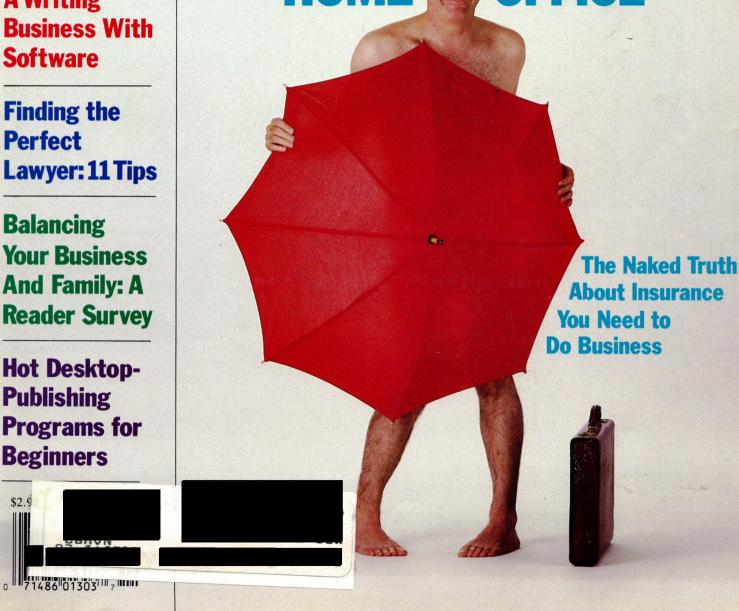
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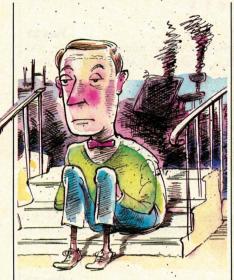
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#### FEATURES

#### **COVER STORY**

#### Insurance Crisis: Home Offices Go Naked

Page 39

With most business owners unsure of the protection they need and most insurance companies unaware of the needs of home and small enterprises, there are plenty of insurance disasters out there just waiting to happen. You don't want to conduct business without the proper protection, but how do you know what insurance to get? And how do you get it at a price you're willing to pay? This guide will give you the vital information you need to properly protect your business, your property, your family, and yourself.

#### **BUSINESS MANAGEMENT**

#### **Far-Flung Colleagues**

Page 44

With the right attitude, organization, and technology, you can work with a colleague across the country as easily and effectively as you interact with a coworker down the hall. Here are the stories of three decentralized companies that use telecommunications to beat overhead costs, project a big-business image, and pool ideas, leads, and resources.

#### SOFTWARE

#### **Great Software Tools for Writers**

Page 48

Authors rely on much more than word processors to handle the many chores associated with a writing business. The writers profiled here use a variety of packages for everything from generating ideas to tracking submissions. *Plus:* A roundup of software for writers.

#### **BUYER'S GUIDE**

#### Computers for the Year of Windows

Page 51

Choosing the right computer for business is one of the most important decisions an entrepreneur has to make. How much power do you need? What kind of computer should you buy? HOME-OFFICE COMPUTING's annual guide to computer shopping gives you everything you need to take the guesswork out of making the right choice.

#### PROFILE

#### On My Own, Part VIII: At-Home Shopping

Page 61

The last thing you want to do when you're in the middle of a business project is run down to the office-supply store for printer paper. In this installment of HOME-OFFICE COMPUTING's special series following the switch from a corporate to a home-office lifestyle, you'll see how one professional manages to stock his office.

#### CONTEST

#### The First Annual Best Home-Business Contest

Page 63

Does your business have the right stuff? Our search is on for the best home-based businesses. Enter this unique contest and you could become one of the winners who will cash in on more than \$20,000 in prizes.

#### BUSINESS

#### **Business 101**

Page 32

How to Hire the Right Attorney. Armed with a good knowledge of your legal needs—and with these vital questions—you should be able to find a lawyer to team up with faster than you can say "Perry Mason."

#### QUESTION AND ANSWER

Clinic

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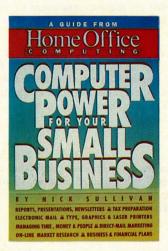
Help for Your Technical Problems. HOME-OFFICE COMPUTING's editors answer questions from readers on locating esoteric keyboards, installing a hard-disk drive, and moving data between high- and low-density disks. Plus: Helpful hint—use your word processor's mail-merge function to number documents.

COVER PHOTOGRAPH BY JOEL WHITE





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#### PRODUCTS

**Product Previews** Page 22

HOME-OFFICE COMPUTING's editors take first looks at new hardware, software, and office products. This month: Apple's latest Macs, inexpensive PostScript printers from Qume and QMS, and a revolutionary handheld scanner.

**Hardware Reviews** Page 66

Miniguide to VGA and Beyond-VGA Cards: Reviews and a side-by-side comparison of Boca Research's VGA and Super VGA, CompuAdd's 16-bit Hi-Rez VGA, Genoa's SuperVGA, Headland's Video Seven VGA 1024i, and NEC's MGE-AT 256. Monitor: NEC MultiSync 4D. Computer: Tandy 2500XL. Copier: Sanyo SFT-50L.

**Office Essentials** Page 78

What's new in office products, gadgets, and services. This month: A power converter for working on the road, a dustcover for keyboard lovers, a modem/hotel-phone connector, a Fuji floppy freebie, and more.

**Software Reviews** Page 80

Reviews of five DTP programs especially suited for page-layout beginners: Express Publisher, Finesse, Publish-It!, Springboard Publisher II, and Avagio.

**Best-Selling Software** 

Page 96

#### COLUMNS

**Working Smarter** 

Shortcuts to a Great Publicity Kit. You should prepare a complete publicity kit even if you have no plans for a major media blitz. According to columnists Paul and Sarah Edwards, publicity kits can help you keep in touch with the clients you have and project a professional image to the clients you want.

Workstyles

I Wanna Be a Remote Node. Our telecommuting senior editor Nick Sullivan points out that a corporate computer network at the office can make it easier for you to justify working at home. With the right setup, you can have all the resources of your office-bound coworkers at your home-based fingertips.

#### DEPARTMENTS

**Editor's Note** Page 6

Page 12 Letters Page 14 **Up Front** 

News, advice, tips, and a shot of humor on using home-office technology and running a

home business. This month: Help for checking your credit rating, the old hard-disk-drive switcheroo, SBA money for disaster victims, a new book from HOME-OFFICE COMPUTING, and more. Plus: A special survey for parents.

**Software Solutions** Page 28

Changing to a New Record-Keeping System. An efficient invoicing system is vital to a business's success. Here's how one home-based professional switched to a customized invoice database to help out at tax time and keep the cash flowing year-round.

**Home-Office Shopper/Classifieds** 

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**Page 103** 

**Advertiser Index** 

Page 90

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#### EDITOR'S NOTE

# My Friend Did a Little Of This and a Little of That But Absolutely Nothing to Protect The Things He Loved



In the 1960s I met Mel, the first person I knew who ran a home-based business. But he didn't think of himself that way, and neither did anyone else. Mel (whose name could well have been short for mellow) did a little bit of this and a little bit of that—anything he could dream up to pay his bills, provide a few luxuries, and sock away a little nest egg. Mel knew what he wanted: freedom. Never before had I met anyone who didn't lust after a corner office with a couch and a plant, or its equivalent. But after I knew Mel for a while, it became clear that tragedy lurked behind the serene facade.

While in his early twenties, Mel met Ann and fell in love. They were young and strong, attractive and confident, and when they married, they looked forward to a long, happy life together.

Soon after they returned from their honeymoon, Ann began to feel ill. Several batteries of tests resulted in a diagnosis of Hodgkin's disease, but the illness was in such an early stage that she could expect to live for an additional 15 or 20 years. This accurate prognosis meant both good and bad news. Mel and Ann shared a life for all those years, but it was marked by several extensive—and expensive—hospital stays. As you may have guessed, they had no health insurance.

Despite all the money they paid in medical expenses during Ann's lifetime, Mel was left with \$250,000 of medical debts after her death. The failure to insure themselves against illness cast a long shadow over Mel's hopes of starting a new life and family.

While no insurance in the world could have prevented Ann's illness or death, it could have made a qualitative difference in her life and marriage, and in the memories that survive her. Believing the old saw that nothing is certain except death and taxes is a good policy when it comes to protection against crisis. Mel and Ann learned that the hard way.

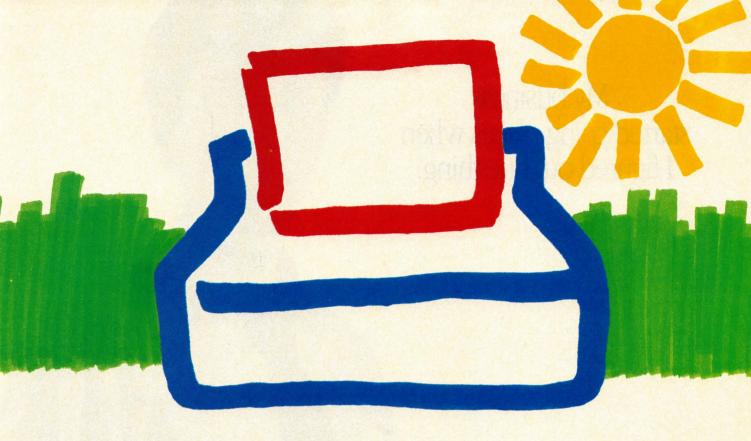
While it is—or should be—obvious that we all need to protect ourselves against crisis, that is not the only point. No one should undertake a new endeavor or take any major step without doing homework. Why leave things to chance? Why live with disaster looming in the background when it's relatively easy to put your mind at rest where insurance is concerned? Our cover story, "Insurance Crisis: Home Offices Go Naked" (page 39), will tell you about the coverage you need and how to get it.

I do know that there are things we can do to make sure that some of our stories have happy endings.

Clausia Core

CLAUDIA COHL EDITOR-IN-CHIEF

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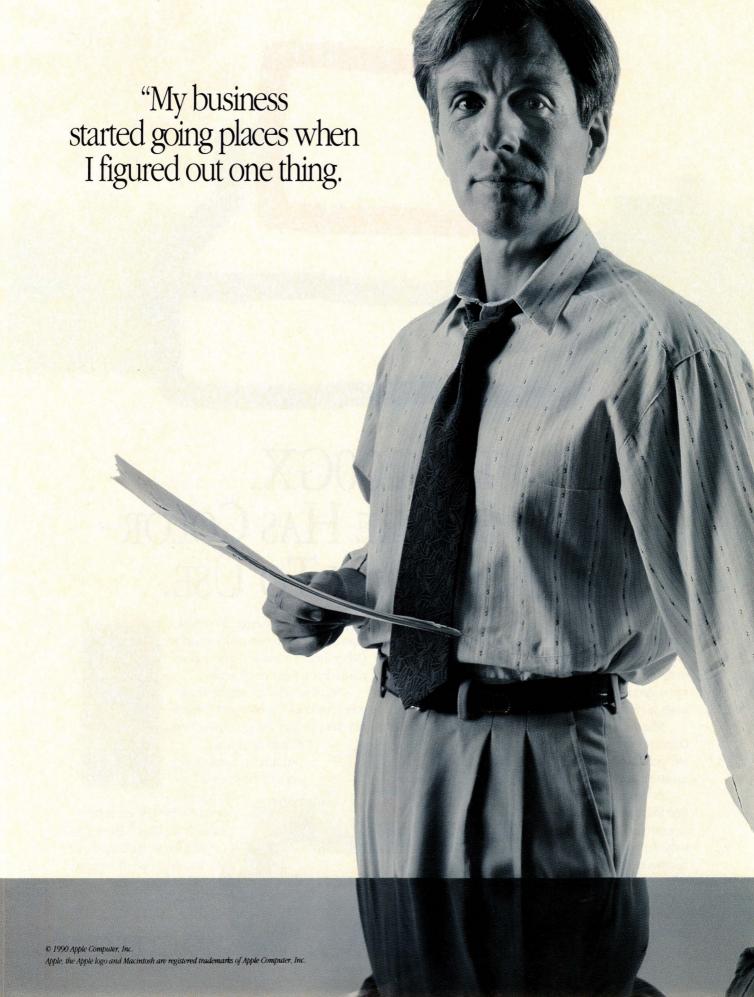
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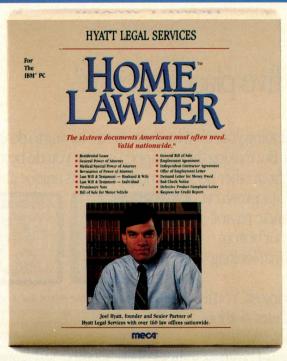
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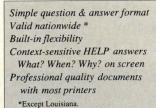
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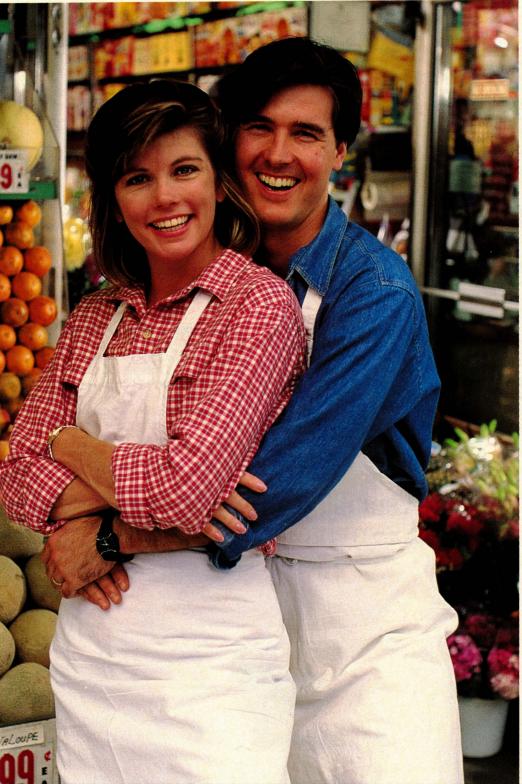
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#### LETTERS

#### **VALUABLE RESOURCES**

I just wanted to tell you that I really enjoyed reading "The Best Business Resources" by Charlotte Pierce in the September issue of HOME-OFFICE COMPUTING (page 55). As someone who works for a small, womanowned business—and who also does a great deal of freelancing—this is exactly the type of information I need. Great job!

NATALIE ZETT High Point, North Carolina

#### **BUSY SCHEDULE**

Let me commend you on your fine magazine. As a rule, my schedule does not permit me to do more than glance at publications. Your magazine, however, is read cover to cover.

As an office-management consultant, I give many of my clients recommendations on portfolio-management software. I've been able to find several such products in your software sections, and I thank you.

JULIE LUBASH THE CONTROLLER Springfield, New Jersey

#### **GETTING LESS THAN YOU BARGAINED FOR**

In your September issue, Edward P. Stevenson lists several methods to get the most out

of your computer ("The Best Ways to Squeeze More Out of Your MS-DOS Computer," page 50). The seventh suggestion, "Speed up disk reads and writes by defragmenting your files," can be risky if it isn't done properly.

I have a Priam 40MB hard-disk drive and, using *PC Tools Deluxe* 6.0, I defragmented my files and then compressed them. In fact, I compressed them right out of existence. A call to Priam yielded a suggestion to run a disk-fix utility, which further complicated the matter: I had a blank hard-disk drive without a single program or file.

I then called Central Point Software, the publisher of *PC Tools Deluxe*, and was informed that the package was not certified for the Priam drive.

After several hours of reinstalling software, I was back up and running. But the lesson I learned is to completely check the compatibility of any utility software with my hard disk before reformatting, defragmenting, marking bad sectors, or making any other hard-disk-drive alterations. It's also a good idea to back up your data before you try to optimize your hard-disk drive.

LOYD W. PIESTER New Braunfels, Texas

#### A CALL FOR AN INDEX

HOME-OFFICE COMPUTING has become an invaluable resource for my home-based marketing-communications business, and I refer to back issues frequently for advice, product information, DTP pointers, timesaving tips, and more. But when I want to look up a specific subject, I have to leaf through all the issues to find what I'm after. Have you considered offering a detailed annual index to make this task easier for your readers?

MADELYN WEIL WORDCRAFT MARKETING COMMUNICATIONS Coconut Creek, Florida

EDITOR'S NOTE: Thank you for your letter. We have, in fact, received may requests for just such an index. Look for a 1990 index in the pages of our December issue.

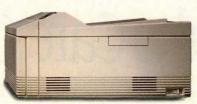
#### YELLOW PAGES GIVE RED-CARPET SERVICE

After reading Alfred Glossbrenner's article on the PC Yellow Pages service in the May 1990 issue of HOME-OFFICE COMPUTING ("Targeted Mailing Lists by Modem," page 30), I decided to try it out—I needed a targeted mailing list for a direct-mail cam-

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#### LETTERS

paign. Unfortunately, I didn't have the same success as Glossbrenner did in getting a list together.

After signing on and building our list of names, I was disconnected when I tried to download the data. After several more attempts, I gave up and wrote it off as a bad experience.

Then, when I got a phone bill charging \$55 for calls to PC Yellow Pages, I was motivated to call them personally. I spoke with Dick Okenica, and after I explained my experience, he not only refunded my \$55, he also sent along a free copy of PC Yellow Pages' own software to aid accessing the service and downloading information.

I was quite pleased with the level of courtesy I received and wanted to share my tale with readers who, like myself, may have come up against some less-then-professional treatment when dealing with technical-service companies.

I will surely use the service again, especially since I know the staff at PC Yellow Pages is so willing to help out if I run into any problems.

STEVE MAAS LIGHTHOUSE CONSULTING Rochester Hills, Michigan

#### **CLOSET READER**

For months I've been peering at your pages every time I hit the newsstand. I've been very impressed so far with the format, information, and content since I picked up my first copy of HOME-OFFICE COMPUTING.

There are many other computer- and business-related magazines, and they're OK if you want to sift through technical data and specs all weekend. For those of us with a business perspective who are interested in solid, practical information on how to extract the most from our computers, your publication takes the lead.

You communicate in a concise, no-nonsense manner and offer useful, timely material. Since there is so much to do and so little time to get it done, HOME-OFFICE COMPUT-ING is the kind of magazine we work-athomers need. Keep up the good work and don't ever lose your simple, straightforward style.

I won't have to hang out at the newsstand anymore to get my hands on your magazine, however. I've just subscribed so I won't miss a single bit of your increasingly valuable wisdom.

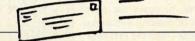
JOHN LESCHINSKI Connell, Washington

#### MAKING THE RIGHT MOVE

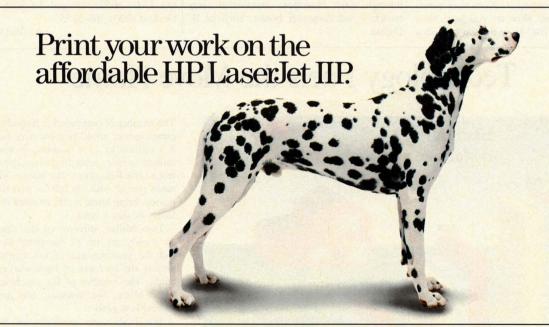
Thank you for HOME-OFFICE COMPUTING! Even though I'm still searching for the perfect, profitable home-based business, your magazine has many encouraging success stories that keep my hope alive.

I run an imprinted sportswear business, and I have many uses for my computer, from word processing to accounting to database work. Regardless of what kind of business I end up with, I'll know my decision to work from home was the right one.

LOUISE ESPINOZA IN THE STARS San Diego, California



HOME-OFFICE COMPUTING looks forward to letters from all readers. Please direct correspondence to Letters to the Editor, HOME-OFFICE COMPUTING, 730 Broadway, New York, NY 10003. Include your name, telephone number, and address. We cannot respond to every letter we receive, and those letters included in HOME-OFFICE COMPUTING may be edited for length and clarity.



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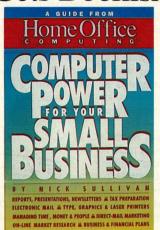
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#### Home-Office Computing Gets Bookish

The HOME-OFFICE COM-PUTING logo you see every month on the cover of this magazine is moving into new territory. Our familiar name debuts this month on the cover of a book. Not only is the book a first for us, but it's the first computer book to cover the main facets of running a growing business—and the first business book that describes how to get more out of your computer.

Computer Power for Your Small Business: A Guide from Home-Office Computing, a general guide to using a computer for business tasks, is aimed at the professional who wants to computerize and simplify more of his or her business. Written by HOME-OF-FICE COMPUTING senior editor Nick Sullivan and published by AMACOM (a division of the American Management Association), Computer Power sets out to present timesaving, image-boosting solutions to common business problems: How do you generate a targeted mailing list? How do you publish a



newsletter to promote yourself? How do you track your cash flow?

The first and last chapters focus on equipment, but most of the book describes software applications for business and financial plans, project management, reports and presentations, mailing lists, newsletters, time and information management, electronic mail and research, record keeping, tax preparation, and fi-

nancial management.

For a limited time, the 248-page book is being offered direct to HOME-OFFICE COM-PUTING readers for just \$17.95. That's \$5 off of the \$22.95 price. Place your order by calling (800) 325-6149. Or send a check for \$17.95 (add \$2.25 for credit card orders) to Scholastic Inc., P.O. Box 7502, Jefferson City, Missouri 65101.

Computer Power is also being sold through major bookstore chains that carry business and computer books, such as B. Dalton.

#### Bouncing Back After Disaster

Natural disasters aren't often on the minds of business owners. But as Hurricane Hugo reminded us, sometimes when it rains, it really does pour. And earthquakes like the one that rocked the San Francisco Bay Area can hit almost anywhere.

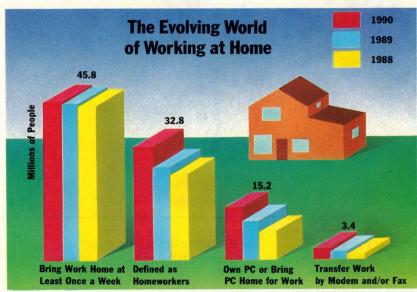
If your business should ever be swept up by a tornado, shaken up by an earthquake, or swallowed up by a flood, be sure to call the Small Business Administration (SBA) for help, says Susan Engeleiter, administrator of the SBA.

The SBA recently announced that more than \$1 billion in disaster loans for nearly 43,000 businesses has been approved in the last eight months to help business owners who have been victims of natural disasters. That figure marks the largest volume of SBA disaster-loan activity since 1981. "The numbers show that we're doing everything we can to help people rebuild from natural disasters," says Engeleiter.

If you want more information on getting a disaster loan, contact the SBA Disaster Assistance Office, 141 L Street NW, Washington, D.C. 20503. Or call the SBA Answer Desk at (800) 368-5855.

—ANDREA DAVIS

#### Technology Fuels the Move Home



The Link data shows steady growth in all areas of home-based work.

The number of homeworker households with computers is up 40 percent over last year's 8.3 million to 11.6 million, or about 15.2 million people, according to the latest survey from Link Resources. By homeworkers, we mean people who run full- or part-time businesses, bring home work, or work at home at least one day a week.

Tom Miller, director of the study, says the steady growth of computer technology and the growing use of fax machines are fueling the increase of homeworker households. The number of fax machines in the home office, for instance, has passed the one million mark.

We'll also see corporations becoming more comfortable with the idea of telecommuters. Says Miller, "Positive experiences with telecommuters who use PCs and fax technology are challenging companies to rethink how they define and deploy their full-time staffs."

—MIKE ESPINDLE

# Multiple Choice.

Which state-of-the art fax is designed and built by an \$18 billion world leader in communications and computers with over 20 years of fax experience, and backed by the only dedicated nationwide fax service organization in America?



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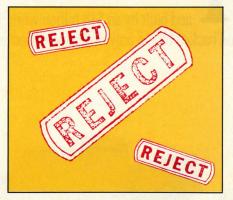
The global computer & communications company.

#### Correcting Erroneous Credit Ratings

When marketing executive Nikki Ferral (not her real name) and her husband, Tim, were denied revolving credit for a \$3,000 bedroom set, they were mortified—and furious. They owned their own home, a small apartment building, a vacation time-share, and two cars. They paid their myriad charge accounts on time. To their knowledge, they had an excellent credit rating.

What they didn't know was that a loan company had turned over to a collection agency an account of Tim's daughter's that was in arrears. The stepdaughter, who was over 18 at the time, had used the Ferrals' address. Since she had the same last name, her bad debt had ended up on the Ferrals' credit report.

The Ferrals' experience is all too common. Credit bureaus often record erroneous information, which in turn can cause people to lose far more than approval for a furniture purchase. Business people often run credit checks on prospective partners or clients. If they see a black mark, the possibility of its being wrong probably won't even cross their minds.



The key is to take the offensive. Check your own credit regularly. To do so, simply call your local bank or department store and ask which credit bureau they subscribe to and where it is located. The major credit bureaus are TRW, TransUnion, and CBI/Equifax. Under the Fair Credit Reporting Act (FCRA), consumers have the right to find out the nature and substance of their credit file.

If you find an error in your file, Bankcard

Holders of America, a national, nonprofit consumer-credit-rights protection group, advises that you write to the credit bureau to dispute the information. Ask the bureau to investigate it, providing any evidence you have. It is required to respond within a "reasonable" amount of time, usually 30 days. The bureau must remove the information from your file if it finds it is incorrect or cannot verify it.

If the credit bureau refuses to correct a mistake, try working directly with the creditors involved or turn to agencies like consumer-credit counseling services, your state or county consumer-protection agency, or local consumer-action services. You should also file a complaint with the Better Business Bureau and the Federal Trade Commission (FTC), which regulates credit bureaus. Write to the Federal Trade Commission, Fair Credit Reporting Act, Washington, D.C. 20580, or call (202) 326-2000. Bankcard Holders of America is located at 560 Herndon Parkway, Suite 120, Herndon, Virginia 22070; (703) 481-1110.

-RONNIE GUNNERSON

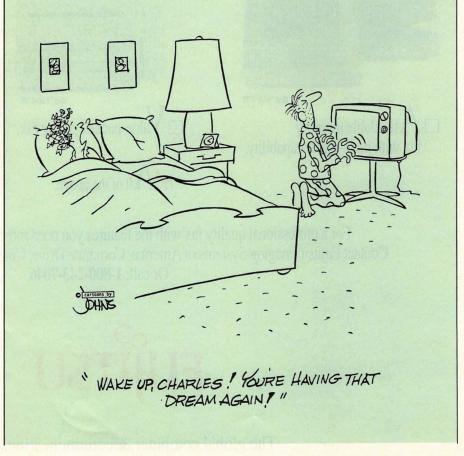
## Buyer Beware: Hard-Drive Jive?



The hard-disk drive in this computer may not be the one supplied by AST.

Before you pull out the plastic to purchase a computer system, be sure to ask the dealer if the hard drive is the one originally supplied by the manufacturer. The reason? Some dealers save themselves—and you—money by switching high-quality drives with less expensive, third-party hard drives or by inserting an inexpensive hard drive into a bare-bones system. These drives may have the same storage capacity as their more expensive counterparts, but they often access data more slowly. Or worse, if you run into hard-disk drive problems, you may discover that the computer company you bought the machine from won't honor the warranty.

-KAREN KANE





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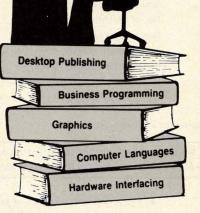


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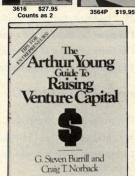
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#### FAMILY SURVEY

If you're one of the millions of people running a business from your home *and* raising a family, please help us out with this exclusive family survey. We want to know how you balance business and family.

After completing this survey, please mail it to us by November 30, 1990, at FAMILY SURVEY, HOME-OFFICE COMPUTING, 730 Broadway, New York, NY 10003.

Please tell us about yourself:					
Name:	Sex: Female  Male				
	No. of Children: Ages:				
Address:	Home-based for years				
	Your work-from-home status: Full-time home-based □				
City: State: Zip: Phone:	Part-time home-based □				
Business name and type:	Employed from my home full-time by a company				
Marital Status: Married ☐ Single ☐ Divorced ☐	Employed from my home part-time by a company  Other				
	results in a future issue.				
TWENTY-FIVE RESPONDENTS, CHOSEN AT RANDOM, WILL R	ECEIVE A FREE COPY OF THE 250-PAGE BOOK COMPUTER POWER OM HOME-OFFICE COMPUTING (\$22.95 Value)				
A. Answer True (T) or False (F). Because I work from home	9. I have problems with each of the following (please rank				
	in order of importance, with 1 being the most problematic):				
1. I am better able to balance my family and career.	Interruptions by children/mate Insufficient leisure time				
2. I believe I'm a better parent.	Interruptions by relatives/ Self-discipline				
3. I believe my kids are less likely to use drugs and alcohol.	neighbors Stress Loneliness Having my work taken				
4. I can arrange my work schedule to accommodate my family.	Added expectations of family seriously				
5. My children better understand and appreciate my work.	members Taking care of myself				
<b>6.</b> I'm more involved in the community	Child care (exercising, taking time to				
7. I'm more involved in my children's school activities.	Maintaining a social life look nice)				
<b>8.</b> I'm making some career sacrifices.	Lack of space Other: Please specify				
	10. Because I work from home (check all that apply),				
B. Answer True (T) or False (F).	☐ Our family has grown closer. ☐ My marriage is stronger.				
	☐ Our children are more ☐ I'm more relaxed, happier.				
1. I'm working from home because I'm a parent.	secure.   I'm tenser and have more				
2. My children like that I'm at home with them.	☐ My marriage is weaker. to do.				
3. I sometimes think it would be better for my children if I didn't work	☐ Other: Please specify				
from home.	child-care arrangements (check all that apply):				
<b>4.</b> I want to move my business outside of my home when my children are older	My children are too old for child care ☐ I stay with my own children ☐				
5. I plan to return to the corporate world when my children are	Nursery school ☐ After-school program ☐				
older	Neighbor  Relative Spouse In-home sitter Other: Please identify				
<b>6.</b> My kids are more likely to be entrepreneurial adults because I work from home	D. Please answer the following questions:				
C. Please mark the most appropriate response.	1. My working at home has had a positive impact   a negative impact □ no impact □ on my family. Please explain:				
<b>1.</b> Family and other home distractions often □ sometimes □ rarely □ prevent me from getting work done.					
2. I'm distracted more ☐ less ☐ in my home office than I was when I worked in a corporate office.	<b>2.</b> I have □ have not □ noticed a change in my relationship with my mate. Describe:				
<b>3.</b> My mate does □ does not □ take my work seriously.					
<b>4.</b> I like ☐ dislike ☐ working at home when the children are there.					
5. My children often ☐ sometimes ☐ rarely ☐ never ☐ get angry when I'm working instead of spending time with them.	3. Please list any special concerns not already addressed:				
<b>6.</b> It's more important for parents to spend time at home when their kids are preschoolers □ when their kids are teenagers □.					
7. I often □ sometimes □ rarely □ never □ use the television or the VCR as a baby-sitter.	<b>4.</b> What advice would you offer other people who are balancing careers and families?				
<b>8.</b> Now that I work from home, household chores and child care are divided among family members equally □ less than equally □ about the same as before I began working at home □.					

From the Makers of Publish-It!™

## If You Can Find

"in preparing my taxes,
SWIFTAX was a godsend!"

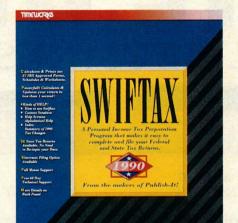
—Jeff Eckert, INFOWORLD

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data is entered.

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For a while there, it was beginning to look like there would never be a dot matrix printer versatile enough to be a real jack-of-all-trades. But no more. Now, for the first time ever, there's a new series of printers designed to bring you big-business performance at a small-business price.

Star's new NX Series printers have all the write stuff you need to get the job done and then some. Let's start with multiple fonts. Each of the four NX Series printers comes equipped with an incredible variety of fonts, sizes and enhancements,



which, when combined, put thousands of printstyles

at your fingertips. And all offer high resolution graphics for more professional-looking presentations.

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Advanced

paper handling

Multiple fonts

are standard with Star. The switchable push/pull tractor makes changing paper paths a snap—a feature that's especially handy when you're printing a lot of hard-to-manage forms. Plus, convenient paper parking lets you feed single sheets through at the touch

of a button—without removing or wasting continuous-feed paper.



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NX printer control panels are designed for the ultimate in user-friendliness. You can easily select up to 14 of the most commonly used functions. And an Electronic Dip Switch Mode lets you customize the control panel with up to 15 of your own power-on settings.

Star's NX printers are Epson and IBM\* compatible for use with most off-the-shelf software packages. Their standard parallel centronics interface with optional serial-to-parallel

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Color printing

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#### PRODUCT PREVIEWS

#### Apple's New Low-Cost Macs

#### **EDITED BY MIKE ESPINDLE**

Many business people consider the Macintosh to be a great computer—but just too expensive. It's true that Apple had the edge on MS-DOS manufacturers in terms of ease of use, and the company played that advantage to the tune of \$4 billion in annual revenues. However, since the introduction of Microsoft *Windows* 3.0, that edge has been somewhat lost. With the Mac no longer head and shoulders above the competition in user friendliness, Apple has finally decided to become price-competitive.

Introduced at a recent press conference, three new Macintosh computers—the Mac Classic, Mac LC, and Mac IIsi—represent Apple's first salvo in what industry observers predict will be a price war with the MS-DOS world. While not dazzling technologically, the computers' new design features (notably a logic board that is half the size of and that uses far fewer components than the SE's) result in prices as much as 50 percent lower than those of previous Macs. Two of the new units, the Classic and the LC, sport new Apple keyboards as well, which are similar in design to the old keyboard but with a slightly different feel.

#### The New Lineup

The compact Macintosh Classic looks like a Macintosh SE. Housed in a similar chassis, the Motorola 68000-based Classic includes a built-in screen, disk drive, 1MB of RAM, and room for a 40MB hard-disk drive. The optional hard-disk drive is quite fast and actually gives the Classic a slight speed advantage over a standard SE. With the 40MB hard-disk drive and 2MB of RAM, the Macintosh Classic has a list price of about \$1,500 (street price should be well below that). A similarly equipped Macintosh SE would have run \$3,595.

A step up, the Macintosh LC looks more like an Apple IIGS than a true Macintosh. Housed in a long, thin chassis that weighs less than nine pounds fully loaded, the LC and monitor take up very little space. Apple says LC stands for "low-cost, color Macintosh," and that's what you get. Its 16-MHz 68020 processor is the same as in the old Mac II, making the LC about twice as fast as a Macintosh SE.

The third unit, the sporty IIsi, is built around the same 20-MHz 68030 processor as the IIcx—but at a much lower price. This sleek unit features only one expansion slot, but since many features are built into the computer's motherboard, there is probably little need for expansion. The IIsi is the lowest-priced Macintosh that can run A/UX,



From left to right, the Macintosh Classic, LC, and IIsi—Apple's latest entries in the business computer market.

the Apple version of Unix, and its built-in video capabilities let you use a variety of Apple and third-party monitors. With 2MB of RAM, a 40MB hard-disk drive, and 13-inch color monitor, the IIsi lists for \$4,900. Street prices are expected to be in the low \$3,000 range. A IIsi with 5MB of RAM and an 80MB hard disk lists for an additional \$800

#### **Price Reductions, Aggressive Stance**

Apple is lowering the prices of many of DOS world.

its other computers as well. The Macintosh IIci with 4MB of RAM and an 80MB hard-disk drive has been lowered to \$6,669. A similarly configured Macintosh SE/30 has been lowered to \$4,569. Though the Macintosh Plus, SE, and IIcx haven't been officially discontinued, the new arrivals will likely seal their fates.

This is all good news for the end user.

Competing on price as well as features, Apple is getting down and dirty with the MSDOS world.

—JORDAN GOLD

#### **COMPUTERS AT A GLANCE**

#### **Macintosh Classic**

Microprocessor: 7.883-MHz Motorola 68000 System Memory: 1MB of RAM (expandable to 4MB), 512K of ROM

Storage: 1.4MB SuperDrive floppy-disk drive Display: 9-inch 512 by 342 monochrome display

Other features: Mouse, clock/calendar chip, keyboard, Apple Desktop Bus port, two serial ports, Small Computer System Interface (SCSI) port, one floppy-disk port, audio-output port.

Also included are Macintosh System Software 6.06 and *HyperCard* 2.0.

List Price: With one disk drive and 1MB of RAM; \$999. Classic 2/40 with 40MB hard-disk drive and 2MB of RAM; \$1,499.

#### Macintosh LC

Microprocessor: 16-MHz Motorola 68020 System Memory: 2MB of RAM (expandable to 8MB), 512K of ROM

Storage: 1.4MB SuperDrive floppy-disk drive; internal 40MB hard-disk drive

Display: 12-inch RGB color monitor; \$600. 12-inch monochrome monitor; \$300. 13-inch Other features: Mouse, keyboard, clock/calendar chip, Apple Desktop Bus port, two serial ports, Small Computer System Interface (SCSI) port, external disk-drive port, video port, internal expansion slot, audio-input port output port.

Also included are Macintosh System Software 6.06 and *HyperCard* 2.0.

List Price: With one disk drive, 40MB hard-disk drive, and 2MB of RAM; \$2,400.

Options: 512K VRAM SIMM video expansion card; \$200. Ethernet Networking Adapter; \$400. Apple IIe card; \$250.

#### **Macintosh Ilsi**

Microprocessor: 20-MHz Motorola 68030 microprocessor

System Memory: 2MB of RAM (expandable to 16MB), 512K of ROM

Storage: 1.4MB SuperDrive floppy-disk drive

Display: 12-inch RGB color monitor; \$600. 12-inch monochrome monitor; \$300. 13-inch high-resolution RGB color monitor; \$1,000. Other features: Mouse, clock/calendar chip, keyboard, Apple Desktop Bus port, two serial ports, Small Computer System Interface (SCSI) port, video port, internal processor-

Also included are Macintosh System Software 6.06 and *HyperCard* 2.0.

direct expansion slot, audio-input port.

List Price: With one disk drive, 40MB hard-disk drive, and 2MB of RAM; \$3,800 With one disk drive, 80MB hard-disk drive, and 5MB of RAM; \$4,600.

Options: 68882 floating-point math coprocessor; \$200. Apple extended keyboard; \$229.



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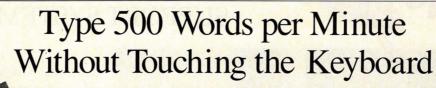
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The Typist, a new handheld scanner from Caere Corporation, reads text, graphics, and numbers from a printed page into whatever program is open on your computer. When scanning, the unit can effectively "type" 500 words per minute into your computer.

The Typist unit we saw, demonstrated on a Mac, lists for \$695, though the street price should be well below that. It requires a Macintosh SE, SE/30, or any member of the

II family with 4MB of memory. An upcoming MS-DOS model will list for \$595 and will require a 286- or 386-based computer with 2MB of expanded or extended memory and a hard-disk drive.

To get similar functionality from a desktop (flatbed) scanner and optical character recognition (OCR) software, you'd have to pay close to \$3,000. Besides the price advantage, you can also use the Typist to pull information while you're on the road or in libraries (with a portable computer) or from material that cannot otherwise fit into a flatbed scanner.

The Typist comes with software that recognizes text regardless of the font styles or number of columns on a page and can read 11 languages. It also scans images into

PCX, TIF, and PICT formats at 300-dot-per-inch resolution.

The unit functions impressively. You can run the scanner down a page of stock-market listings, and it will read all the information into the proper cells on your spreadsheet. You can scan a list of addresses into the proper fields of your database. Once you see this happen, you won't want to let the Typist out of your hand.

The Typist scans a page at up to two inches per second, twice as fast as competing products. With a five-inch scan width, you can scan a typical business document with two scans of the page, either horizontally or vertically. If you overlap the same text with both scans, the Typist will throw away the repeated text. —NICK SULLIVAN

# PostScript Printer Falls Below \$2,000 Mark!



No, this is not a misprint. Like HP-compatible printers, which recently dipped below \$1,000, PostScript printers are coming down in price—and they're offering more features.

The new four-page-per-minute QMS-PS 410 is an example of this trend. Its suggested list price is \$2,795 (the street price may drop below \$2,000), and the unit has several features you won't find in many higher-priced printers.

The QMS printer features an Emulation Sensing Processor (ESP), which automatically detects the nature of incoming data and selects the right printer page-description language. The printer can be used with up to three computers via separate parallel, serial, and LocalTalk ports. In addition, you can change printer parameters with easy-to-use, pull-down-menu software instead of tweaking the printer's front panel.

The QMS-PS 410 includes 2MB of RAM (expandable to 6MB); 45 typefaces (compared with the typical 39); and room for two expansion cards (either font cards or HP-GL emulation cards). If you're looking for a low-cost PostScript laser printer that cuts no corners on features and performance, the QMS-PS 410 could fit your bill.

—STEVEN C. M. CHEN

# PostScript Speed Demon

Another low-cost PostScript printer, the new Qume CrystalPrint Publisher II, packs an impressive list of features into a very speedy \$3,995 package. The six-page-perminute (ppm) Publisher II outperforms a large pack of similarly priced 4-ppm printers, and it features a high-capacity, 100-

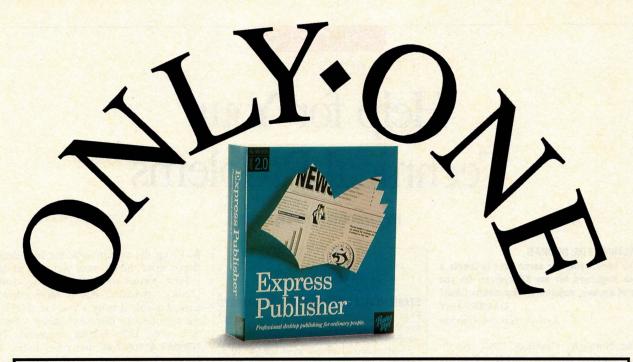


sheet paper tray and expanded font capability in the HP-emulation mode to boot.

But it's in the speed and print-quality arenas that this printer really shines. Because of a special RISC microprocessor, throughput for the Publisher II can actually beat the performances of some of the faster 8-ppm lasers. The unit's liquid crystal shutter (LCS) technology, somewhat different from other printer schemes, can actually produce darker, blacker graphics.

Like other new PostScript units, the Publisher II detects the nature of incoming data and automatically selects the right printer language. Standard memory is 2MB (expandable to 6MB). Interfaces include parallel, serial, and LocalTalk ports.

-STEVEN C. M. CHEN



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<sup>\*</sup>Express Publisher 2.0 utilizes Intellifont® type scaling technology.

## Help for Your **Technical Problems**

#### BY EDWARD P. STEVENSON

#### **SEARCHING FOR DVORAK**

Q. I've been trying for some time to locate a Dvorak keyboard for my XT system. Do you know of anyone, anywhere, who makes them?

DARREN HEY

Leduc, Alberta, Canada

A. The Northgate OmniKey Ultra (Northgate Computer Systems, [612] 943-8181) has switches that convert its normal QWERTY layout to either of two Dvorak layouts. (For those of you who are unfamiliar with the Dvorak keyboard, it is designed to speed typing by putting the most-used characters directly under the fingers, the least-used being relegated to the harder-toreach positions.) Why two Dvorak layouts? The two versions offer different positioning of the numerals and of some of the punctuation. The Ultra-which will work with your XT—has several other ingenious customization features as well as a reputation for excellent touch.

As an alternative, WordPerfect 5.1 has a key-mapping feature that allows you to redefine any and all keys. If changing your word-processing software doesn't appeal to you, you might want to investigate keyboard-macro (also known as keyboard-programming) packages, such as Keyworks (Alpha Software [818] 986-4110), which give you essentially the same capability that's built into WordPerfect.

#### PAINLESS HARD-DRIVE INSTALLATION

Q. I want to upgrade my XT computer with a hard-disk drive and a modem. I really want to do this myself. What's the safest way for me to proceed?

> LIANNA WRIGHT Chicago, Illinois

A. There are many companies that sell harddisk drives and hard-disk-drive controllers (both of which you need). Some will provide technical assistance and advice. PC Connection ([800] 243-8088), a highly repsoftware, provides terrific assistance. If you drives at once. I really don't want to have to buy your drive and controller from PC Con- reenter all that data. nection, you will receive, free of charge, an instructional videotape detailing the entire

#### **HELPFUL HINT**

#### SEQUENTIALLY NUMBERED DOCUMENTS

From time to time, I need to sequentially number the items I'm printing: forms, invoices, purchase orders, receipts, and so on.

Until recently I used a hand stamper or a pen; now I use my word processor's mergeprinting function to handle the numbering. Here's how it works.

Create a merge-data file ("secondary merge file" in WordPerfect parlance) called NUMBERS. The file contains one field per record, each record being a numeral in the sequence of numbers you wish to use. The records in my NUMBERS file begin with 001 and end with 999, so I can number documents from 1 to 999. If you need a bigger range of numbers, make the file as large as you like.

In your document ("primary merge file"), put a merge-print code or placeholder where you want the numbers printed. (You can, of course, precede it with text like Ticket Number or Invoice Number.) Then run your merge print and let the hardware and software do the rest.

To print a partial sequence, such as 101 through 200, simply copy the NUMBERS file, calling the copy something like NUMBERS1. Open the new file and edit it so it includes only the numbers you want reproduced, save the edited file, and merge it with your document.

> GEORGE W. CRUMLEY, JR. Merrick, New York

installation procedure.

As for a modem, an external modem doesn't require any installation at all; you simply connect the modem to a serial port on the back of your computer. An internal modem plugs into an empty expansion slot on your motherboard and may require the setting of a few switches. If you can open your computer, you can install the modem.

#### **DENSITY DILEMMA**

Q. I have a large number of database files on high-density, 3.5-inch disks that I need to transfer to low-density disks. The problem is utable mail-order supplier of peripherals and that I don't have access to both types of

> CYNTHIA WILLIAMS CLINTON Montgomery, Alabama

**A.** Using the system with the high-density floppy drive, here's what you need to do:

First, format some disks to low density (720K). (Actually, this is more correctly termed double density.) You can do this on the high-density drive by adding "switches" to the DOS Format command. Type FORMAT A:/N:9/T:80 and press Enter. The N:9 and T:80 switches tell DOS to create 80 tracks of nine sectors each on the disk.

Now create a subdirectory on your harddisk drive to use as a transfer bin, or holding tank. I keep a subdirectory named TEMP on my hard disk for this purpose. To create the subdirectory, at the C> prompt, type MKDIR \TEMP and press Enter.

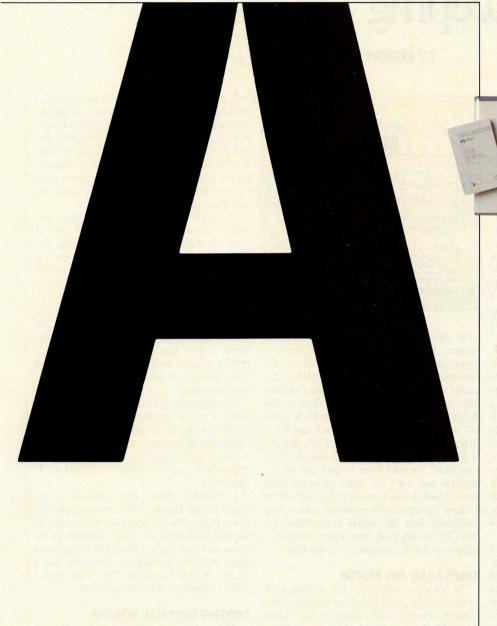
Next, copy the files off the high-density floppy into TEMP. At the C> prompt, type **COPY A:\*.\*** \TEMP (Enter). After copying from your original floppy, remove that disk and replace it with one of your newly formatted 720K (double-density) disks. To copy the files from TEMP onto the 720K floppy, type COPY \TEMP A: (Enter).

You face a potential problem at this stage: There may be more files on the high-density disk (and, hence, in TEMP) than will fit on the 720K disk. If that is so, you will need to copy files to the 720K disk one at a time. To make this easy, change directories by typing CHDIR \TEMP (Enter). Type DIR to see what files are in TEMP. To copy a file, type COPY [FILENAME.EXT] A: (Enter). File-management software like XTree or Norton Commander will make the transfer process much

#### S WE'LL PAY FOR YOUR PROBLEMS S

If you need computer advice or are having system problems that need diagnosis, our technical staff will try to help you out. And, if you have hints you think would be helpful to other readers, we'd like to see them. We'll pay you \$25 if we publish your letter in Clinic. Although we cannot answer each letter individually, we will deal with frequently asked questions and common problems. We reserve the right to edit letters for clarity and length. Please include your name, address, and telephone number with all correspondence. Send your letters to Clinic, HOME-OFFICE COMPUT-ING, 730 Broadway, New York, NY 10003.

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# Changing to a New Record-Keeping System

#### BY ROBERT KENDALL

# How a Customized Database Helps One Professional Track Invoices and Expenses

As we all know, an efficient invoicing system is essential for keeping the money coming in. Accurate records of income and expenses are essential to good relations with the IRS. In my own business, I take it for granted that my database will look after these matters, but setting up the system I use was a long process of careful planning and learning from experience.

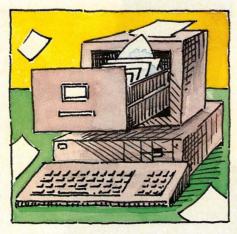
#### **MOVING FROM NOTEBOOK TO COMPUTER**

I originally kept my records in a notebook and created invoice forms with a typewriter and a photocopy machine. Then I transferred my bookkeeping to *Cornerstone*, a now-defunct database with limited capabilities. This past January, I felt the need for more flexibility and switched over to *dBase*.

By postponing my switch until the beginning of the new year, I saved myself the trouble of converting months of records to a new program. The previous year's records remained contentedly in *Cornerstone* to await April 15, and I began the new year with a fresh database slate.

Though I use dBase, nearly any relational database can tackle the system I designed. You could also use a flat-file database if it has a Lookup function, such as the one found in Symantec's Q&A, which will let you pull addresses from a Clients file to place in a report generated from an Invoices file. Also, any flat-file program would have to allow for calculated fields that determine how many days today's date is from January 1, a skill required by my Projected Annual Income report. A simpler flat-file database, however-especially one that doesn't let you pull information from one file into another-may not be up to most of the reports I need.

ROBERT KENDALL is a New Jersey-based professional writer.



In designing my Cornerstone database system, I learned to always think aheadespecially to April 15—and to allow for unforeseen circumstances. For example, it's easier to ignore or delete fields that eventually turn out to be extraneous than to add fields once a database is full. That's because if I add a field, I have to go back and fill in that new field for each record. For example, if I had neglected to put in a date field for expenses, I would have to pull out all my receipts and copy the dates into each database record. I also found that the extra effort I spent incorporating relatively minor conveniences into the initial design paid for itself by saving time later when I needed it most—under the pressure of a deadline.

#### THREE FILES, ONE SYSTEM

To set up a system for my writing business on dBase, I created three database files: Clients, Invoices, and Expenses. My Clients file holds the names and addresses of all my clients. I also use the file to track potential clients and so include fields for contact names and phone numbers, as well as a Notes field to record responses to solicitations for work. The Clients file is related to the Invoices file by a common Client Name field, so I can pull client addresses into my invoices at print time.

My Invoices file holds a separate record for each invoice I submit. There's a field for each billable item and for each amount. Though I rarely bill for more than three or four articles I've written on one invoice, I included 10 Item fields so that an exceptionally large project won't take me by surprise. A Project Description field records the topic and the intended magazine issue or section for a group of articles. This makes it easier for my client to keep track of expenses after I submit invoices for payment and for me to find them in the database.

There are fields for the invoice date and date of payment. In the second of these I enter the date on the check rather than the date I received or deposited it, so my records will correspond with the Form 1099 that each of my clients sends the IRS showing the amount paid to me for the year. I've found it useful to include two fields for resubmission dates, since occasionally an invoice goes astray. My local tax laws demand a field that notes where I do each project. Since I work in both New York and New Jersey, I get taxed by both state governments.

My Expenses file holds only expenses for which I'm not reimbursed by clients. Each record lists the date, description of the item (such as printer paper), amount, paid to, and a category (for example, Supplies) that corresponds to my tax return's Schedule C categories.

I often bill clients for expenses, so records in my Invoices file also contain expense fields. For tax purposes, I must record the reimbursement for these expenses as income and then deduct these billed expenses along with the nonbillable expenses that I record in my Expenses file. This makes record keeping a little complicated.

#### PRINTING COMPLETE INVOICES

Although I print only the expense description and amount fields on invoices, each record in the Invoices file also includes other expense fields necessary for tax purposes. For instance, Date and Recipient of Payment fields let me match expenses with receipts. A Category field lets me sort expenses by the categories the IRS requires, such as telephone, supplies, and office expenses. I also added a separate Date Paid field for expenses, since I sometimes receive separate checks for fees and expenses I've billed on a single invoice.

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#### SOFTWARE SOLUTIONS

To allow for up to four expenses per would serve the same function—a blank invoice, I included four sets of each expense field in each Invoices file record. Each record in the Expenses file contains an identical set of fields, with the exception of Date Paid. I can then merge the expenses from file. With Cornerstone, or most flat-file databases, I used to record in the Invoices file only the expense information I needed to print on an invoice and then manually reenter the data in the Expenses file, adding tax information. It was too easy to forget this extra step, though, and cheat myself out of a deduction.

Another practice I abandoned with my current system was creating one invoice record for billable expenses and another for article fees and then submitting two separate invoices for a single project. This simplified generating reports from the file, but I discovered that separate expense invoices sometimes fell through the cracks on their way to the payroll department. However, I often submit separate expenses invoices still—for instance, phone expenses, since I don't get my phone bill until a month or so after I turn in an article.

To print any invoice, I generate a report from the Invoices file. It places my name, address, telephone number, and Social Security number at the top, pulls in the client's address from the Clients file, adds the appropriate item and expense information, and totals it all up. I wrote a short dBase program to limit the report to the record last viewed, which saves me the trouble of entering selection criteria for a record each time I print an invoice. In fact, having to write a program for this purpose indicates a dBase weakness: Most database programs give you a simpler report option to print just the current record. If your database doesn't allow this, you'll have to select the record you want to print by date or invoice number and then create an appropriate report. My database setup automatically prints out two copies of each invoice—one to submit and one to file.

When I get a check in the mail, I celebrate by finding the relevant invoice record and filling in the Date Paid field to mark it paid. I could do a search for the total that matches the amount of the check, but I find it quicker just to scan the invoice records visually in a table format with each record shown on a single line. In my table I've placed date submitted, client name, project name, and a calculated invoice total first. These are followed on-screen to the right by calculated fields that show separate totals for article fees and billable expenses in case I'm paid separately for these. By means of some programming, I added a field that displays the word unpaid for any outstanding invoice. Displaying the Date Paid fields database as I have altered it in the past.

field indicating an outstanding invoice—but would be less noticeable.

#### **REPORTS FOR TAX TIME**

Though tempted to wait until April to set the two files at tax time into one uniform up the income tax reports, I designed and tested them immediately back in January in case they made me want to rethink my database structure. To get a handle on my income. I first selected all Invoices file records with a Date Paid falling in the tax year. Since near year end I might have Date Paid fields for different years on the same invoice, my query also has to filter out any amounts paid in the nontax year. Then I created two reports: One gives me subtotals by Place (where the work was done), so I can divide the tax spoils between New Jersey and New York. The other subtotals on Client, so I can check the results against the IRS Form 1099, which each client provides showing how much they've paid me.

> My expense report was a little trickier. First I wrote a program to extract the reimbursed expense data from my Invoices file and copy each expense into a separate record in a new Total Expenses file. The program then appends the contents of the Expenses file to the Total Expenses file. Even though I could have simply copied each reimbursed expense record from my Invoices file to my Expenses file, I create a separate Total Expenses file so that if there's a glitch, I don't corrupt my Expenses file (since once I've combined two files, there's no easy way to separate them again). I select all records in Total Expenses with a date falling in the tax year, then print out a report with subtotals for each expense category (based on IRS requirements) and a final total.

> It's fortunate that I don't mind database programming, since handling my expenses in this manner required a fair amount of it. If you're more of a nonprogrammer, or if your database doesn't allow for programming, your approach might be to leave the expenses in the Invoices file, generate separate expense reports from Invoices and Expenses, subtotaled by Category, and then add together the figures from the two reports by hand.

#### TAILOR TO YOUR TASTE

This system has served me well and may serve as a guide for others who want to keep their business finances straight. Yet the key to creating a good system is to tailor it around the idiosyncrasies of your own work. In fact, I have no doubt that my database will evolve as my circumstances change. Even though I've tried to anticipate all future contingencies, I'll probably run into conditions that will motivate me to alter the

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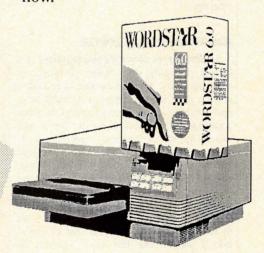
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# RATION BY BILL MAYONNE

## How to Hire the Right Attorney

#### BY CLIFFORD R. ENNICO

#### Finding an Attorney to Team Up with Can Be Easy If You Ask These Questions

There are two professionals whom every entrepreneur will eventually call on: an accountant and a lawyer. Choosing the right accountant was the subject of last month's Business 101 column ("Improve Your Finances with the Right Accountant," October 1990, page 36). The reasons for hiring an accountant are fairly obvious. However, the reasons for hiring a business attorney may not be apparent to a small-business person. A good business attorney will provide vital assistance in almost every aspect of your business, from basic zoning compliance to copyright and trademark advice to formal business incorporation to lawsuits and liability.

Here, then, are the essential questions to ask a candidate, and some to ask yourself, when you're shopping for a business attorney.

#### **QUESTIONS FOR THE LAWYER**

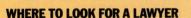
- 1. What types of law do you practice? If a lawyer primarily does wills, divorces, or accident cases, then he or she is probably not the right lawyer for you. A small-business attorney should be a specialist in either corporate or business law-but he or she should not be too narrowly specialized. At the very least, the right lawyer for your business will have a good working knowledge of corporate or partnership law, federal and state taxes, and estate planning. Don't be afraid to ask direct questions about a lawyer's experience. If you know you want to incorporate your business, for example, ask if he or she has ever handled an incorporation.
- 2. Are you well connected within the legal profession? Your attorney should be something of a legal general practitioner—one who can diagnose your problem and either perform surgery or refer you to a specialist.

Attorney CLIFFORD R. ENNICO, who works from his home office in Fairfield, Connecticut, is the principal author and editor of Corporate Counseling, the New York State Bar Association's encyclopedia for corporate lawyers.

No lawyer can possibly know everything about every area of law. If your business has specialized legal needs (a desktop publisher, for example, may need someone who is familiar with copyright laws), your attorney should either be familiar with that special area or have a working relationship with someone who is. Then you won't have to look for a new lawyer every time a different type of problem crops up.

3. Do you have other clients in my industry? Your attorney should be somewhat

familiar with your industry and its legal environment. If not, he or she should be willing to learn the ins and outs of it. Scan your candidate's bookshelf or magazine rack for copies of the same journals and professional literature that you read. Be wary, however, of attorneys who represent one or more of your competitors. While the legal code of ethics requires confidentiality, you do not want to risk an accidental leak of sensitive information.



In a word, everywhere. Many state, city, and county bar associations will furnish you with a list of lawyers in your community. You can also find listings in the yellow pages. Unfortunately, you will not get a recommendation or referral from these sources, nor will you find out much about a lawyer's specialties.

A better, though still limited, resource is The Martindale-Hubbell Law Directory, a multivolume reference work available in most public libraries. Martindale-Hubbell lists lawyers in every community in the United States and provides short biographies of the more prominent lawyers in each location as well as information about their specialties.

Ultimately, the best way to find the right lawyer is the same way to find the right plumber: word of mouth. Ask other small-business people in your community about the lawyers they use, but keep in mind that their legal needs may differ from yours. Local colleges may have detailed records about alumni who have become lawyers. Most will send you a list of alumni lawyers in your community. Finally, local Rotary clubs or Lions International chapters, fraternal organizations, and country clubs almost always have lawyers as members; they may be willing to help you focus your search.



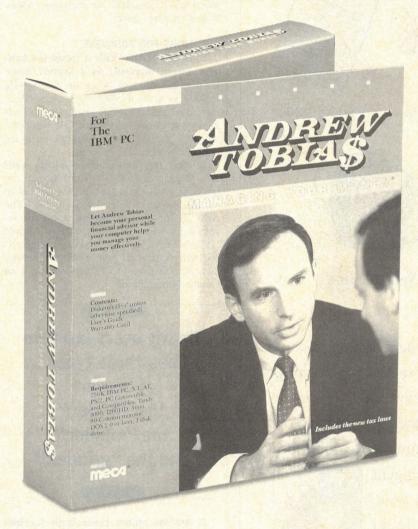
- 4. Are you a good teacher? Your attorney should be willing to take the time to educate you and your staff about the legal environment of your business. He or she should tell you what the law says and explain how it affects the way you do business so that you can spot problems well in advance. The right lawyer will distribute such freebies as newsletters or memoranda that describe recent developments in the law.
- 5. Are you a finder, a minder, or a grinder? Nearly every law firm has three types of lawyer: The "finder" scouts for business and brings in new clients; the "minder" takes on new clients and makes sure existing ones are happy; and the "grinder" does the clients' work. Your attorney should be a combination of a minder and a grinder. If you sense that the lawyer you meet is not the one who will actually be doing your work, ask to meet the grinder. Be sure you are comfortable with him or her.
- 6. Will you discuss fees up front? Most lawyers will not volunteer estimates of their fees or expenses for a particular task unless you ask. If your cash flow is seasonal and you would like the attorney's bills to be delivered only at those times when you have sufficient cash to pay them, raise the question early on in your meetings. If a lawyer refuses to discuss billing practices or is at all evasive, you should look for another lawyer.

If a lawyer asks you for a retainer or deposit against future fees, make sure the money will be used and not held indefinitely in escrow. You should be suspicious of any lawyer who offers to take shares of your company's stock in lieu of a fee.

7. Are you willing to hold down legal expenses? Any lawyer who works regularly

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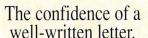


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with small businesses will know that you would rather plow cash back into your business than pay it out in legal fees. The right lawyer for your business will be willing to train you or your staff to handle some of the more routine legal tasks, such as filling out IRS forms, or delegate these tasks to a junior lawyer, paralegal, or secretary, whose billing rates are lower.

#### **QUESTIONS FOR YOURSELF**

1. Is this person really a frustrated business person disguised as a lawyer? Some lawyers get tired of being on the outside looking in when it comes to business dealings. Such a lawyer may attempt to secondguess your business judgment. Be wary of a lawyer who takes too keen an interest in the nonlegal aspects of your work.

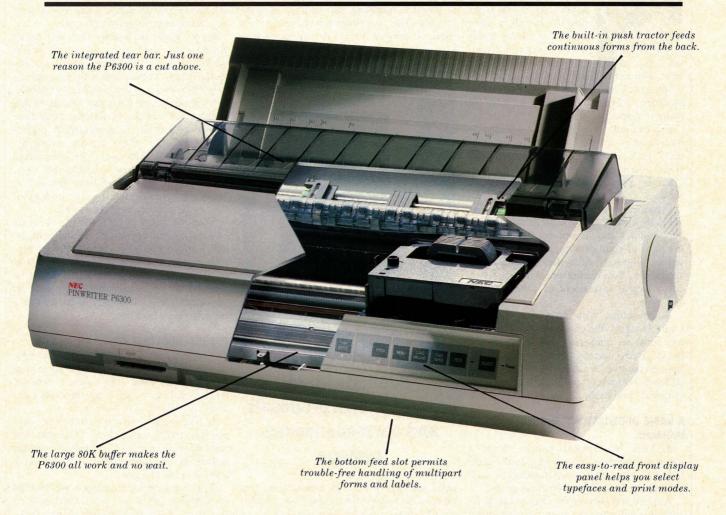
2. Does this person communicate well? J.P. Morgan once said, "I do not pay my lawyers to tell me what I cannot do, but to tell me how to do what I want to do." The right lawyer for your business will not respond to your questions with a simple "That's okay" or "No, you can't do that," but will outline all your available options and tell you what other businesses in your situation normally do.

**Nearly every law firm** has three types of lawyer: the "finder," the "minder." and the "grinder."

- 3. Are the offices conveniently located? You will need to visit your attorney frequently, especially in your first few years in business. You should not have to waste a day traveling to and from the nearest city each time you need legal advice. When in doubt, choose a lawyer close to home.
- 4. Do I like this person? Don't forget to follow your instincts and feelings. You should be able to communicate openly and freely with your attorney. If you feel you cannot trust a particular lawyer or you believe that the two of you have different perspectives, keep looking. Just remember that "L.A. Law" is not reality: Good looks and a dynamic personality are not as important as accuracy, thoroughness, intelligence, the willingness to work hard for you, and attention to detail.

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\*Color kit separately. the beauty of the P6300 (and its narrow-carriage brother, the P6200) extends beyond the printed page. Because they give you the ability to print on everything from 24-pound letterhead and envelopes, to continuous forms, labels, and card stock. Plus the ease to go from one to another, from one minute to the next.

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It takes a lot less than you think to bask in its glory.

# Shortcuts to a Great Publicity Kit

#### BY PAUL AND SARAH EDWARDS



Whatever stage your business is in, keep a basic publicity kit on hand. Even if you don't plan to launch a campaign for media attention, we suggest assembling a publicity kit

now. You never know when an opportunity to promote yourself will tap you on the shoulder. When it does, you want to be ready to respond.

For example, you might be selected to receive an award from a business organization, speak before a civic group or professional association, be interviewed by a magazine, or appear on a radio or television talk show.

Prepared properly, the elements of your publicity kit will help you take advantage of opportunities and inform people. You can use parts of your kit in presentation folders, written proposals, sales packets, and correspondence. So creating one kit becomes a cost-effective investment of time, energy, and money.

In consulting with marketing specialist Laura Douglas, the coauthor of our upcoming book on marketing and sales for the home-based business, we've identified six basic elements of a publicity kit. We've added some shortcuts for pulling your kit together quickly and easily.

### A BASIC PUBLICITY KIT SHOULD INCLUDE:

1. Your biographical profile. Write a one-page sketch of your background, highlighting your career accomplishments, education, and fundamental business goals.

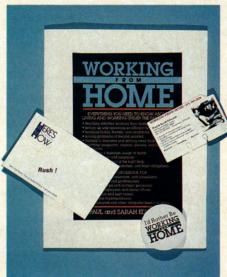
A quick and inexpensive way to create an attractive bio is to print it on your letterhead with your name as the headline centered in large type. You can easily create this, and other elements of your kit, with a word-processing or desktop-publishing program.

2. A one-page sketch describing the history of your company. It should cover the guiding principle behind your business, primary activities, and general plans for your business's future. Print it on your letterhead

PAUL and SARAH EDWARDS are authors of Working from Home (Jeremy P. Tarcher) and system operators of the Working from Home Forum on CompuServe (GO WORK). They also cohost the "Home Office Show" on Business

with the company name centered in large type at the top of the page.

**3.** A complete description of your service or product, including any technical specifications. This is sometimes called a fact sheet or service sheet. If you provide a variety of services or an entire line of prod-



# Use parts of your publicity kit in presentations, proposals, and correspondence.

ucts, summarize each in outline form. Include a one-paragraph description of what your business provides followed by a list of products or services.

- **4.** A 5-by-7-inch or 8-by-10-inch blackand-white, glossy head shot of you and a photograph of any products. If you don't want to include a photo with every package, print a photo on your bio or fact sheet and send photos only when you think there's a good chance they will be used.
- **5.** Photocopies of articles written about you or your company and testimonials or letters of endorsement from customers and clients.

These clips serve as evidence that there is interest in you, your work, and your company. A collection of good articles may take you some time to build, but you will find

that publicity begets publicity. To get started, volunteer to give speeches or seminars for local professionals or civic groups and ask them to do an article about you in their newsletter to promote the program.

**6.** A sample or novelty that will attract attention to your work. If you're in the cookie business, like Mrs. Fields and Famous Amos, coming up with a sample is easy. But let's say you do desktop publishing. Include a newsletter you've created that features the benefits of desktop publishing and your company in particular. A professional organizer might include a brightly colored button that says, "I'm Organized for Success!" We use a button that says, "I'd Rather Be Working from Home." A bookkeeper could send a small booklet of tips for organizing financial records.

Keep a quantity of each of these elements on hand so that whenever a publicity opportunity arises, you won't have to drop everything trying to collect the pieces for a kit. By using this modular approach, you'll be able to mix and match whatever elements you need to respond quickly with a kit that's suited to each occasion.

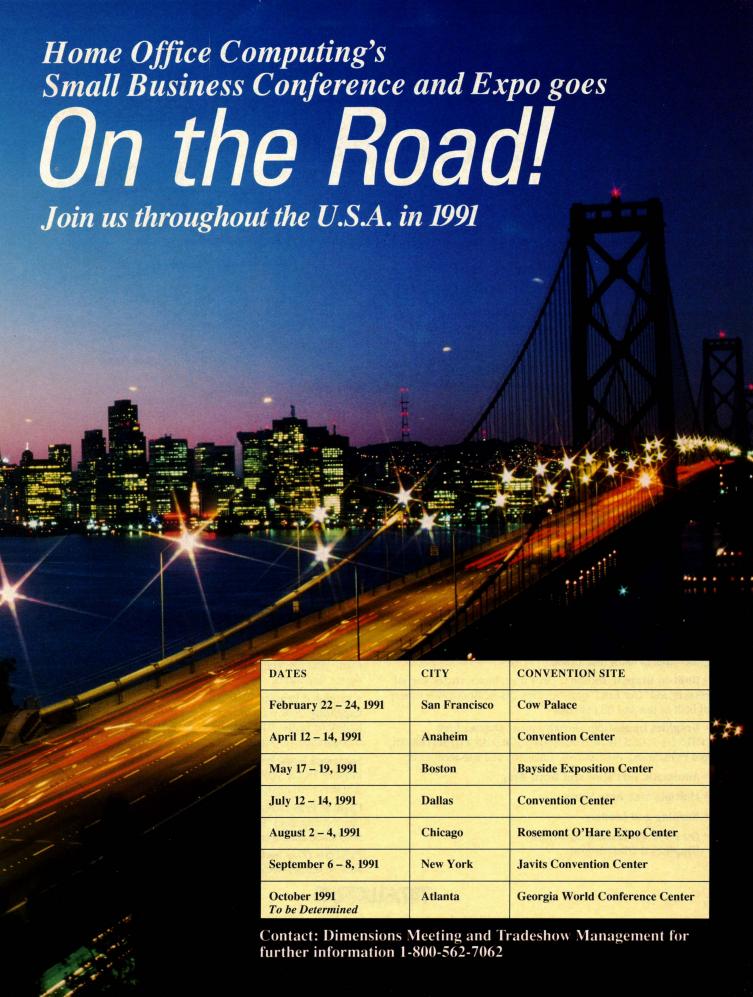
#### PRESENTING YOUR KIT

You don't need a fancy, glitzy presentation package to enclose the materials in your kit. A professional look with a personal touch is sufficient. Here are three easy options for creating an attractive folder:

- 1. The next time you have stationery printed, enlarge your logo or slogan and print it onto a supply of standard two-pocket folders at the same time. This will save color and ink charges.
- 2. Have your logo enlarged and printed on adhesive labels and place the labels on the cover of standard die-cut folders. These folders are available in multiple colors and textures in most office-supply stores or mail-order catalogs.
- **3.** If you have a four-color or attractively designed brochure, or have written a book or other published work with a title that's related to your business, make extra copies of the cover at the time of printing and glue these to the cover of standard die-cut folders.

Often the most newsworthy opportunities are also the most unexpected. You never know when some magic publicity moment will arise. Begin assembling the elements of your kit now so that when it does, you'll be prepared for it.

Radio Network on Sunday nights.



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# Home Office

# Insurance Crisis HOME OFFICES GO NAKED

BY PAUL AND SARAH EDWARDS



We're in the midst of an insurance crisis—partly because business people aren't always

aware of what coverage they need, and partly because the insurance industry is unaware

of the needs of home-based business customers. Here's a look at the basic

equipment, property, auto, health, disability, and liability-insurance

protection you may need-but probably don't have.



t's shocking! When we interviewed a number of home-based business people about the types of insurance they carry, we expected the answers to be a routine list of basic personal- and business-insurance policies. But we uncovered several startling and disturbing realities:

- Only one in four has protection against theft of, damage to, or other loss of business equipment.
- More than two-thirds have no businessinterruption insurance.
- Most of those without insurance don't know they need it or think they are automat-

ically covered by existing policies.

- Some don't even have homeowner's or apartment-dweller's insurance.
- Nine out of 10 don't have disability insurance.
- Most don't have insurance covering business use of their cars.
- One out of six doesn't have health-insurance coverage.
- · Some want insurance but can't get it.

Many of the people we spoke with are running successful home businesses grossing more than \$100,000 a year. Most have computer systems. Many are equipped to

the hilt with fax machines, laser printers, and personal copiers. In fact, a man whose home office is filled with a proprietary computer system and biofeedback equipment worth tens of thousands of dollars didn't know there was such a thing as apartment-dweller's insurance.

Contributing editors PAUL and SARAH EDWARDS write the monthly Working Smarter column. They are also authors of Working from Home (3rd edition, Jeremy P. Tarcher, 1990), from which some of the material in this article is taken.

#### **HOME-OFFICE INSURANCE CHECKLIST**

The average premiums and coverages listed are guidelines and may not be applicable to your situation or state. They were developed by chartered financial consultant Dan Silverman of the Silverman Group in Beverly Hills, California.

Silverman based these figures on a composite of the typical HOME-OFFICE COMPUTING reader: a male, age 38, in good health, married with children, living in a large metropolitan area; a sole proprietor working from home in a service-related business like computer consulting, public relations, word processing, or desktop publishing, who owns \$5,000 to \$7,000 of business property. Silverman estimates someone living in a smaller community could pay 30 percent less.

Use this checklist to review your insurance needs with your attorney and/or insurance agent.

#### **Liability Insurance**

Covers costs of injuries that occur on your property to business-related visitors.

When Needed: If you ever have delivery people, clients, or customers come to your home.

Estimated Cost of Average Coverage: \$20 per year for \$500,000 of coverage (when added as a rider to homeowner's policy).

#### **Business-Property Insurance**

Protects you from damage or loss to your business property.

When Needed: If you have any equipment in your home office that's used for business purposes.

Estimated Cost of Average Coverage: \$50 per year for \$5,000 to \$7,000 of equipment (as a rider to your homeowner's policy).

#### **Small-Business Insurance**

Provides coverage for business losses—including general liability, business interruption and loss of earnings, errors and omissions, and product liability. These policies can be purchased separately as well.

When Needed: If you have more extensive inventory or equipment than you can protect by adding a business endorsement or rider to your homeowner's policy.

Estimated Cost of Average Coverage: \$500 per year.

#### **General Liability Insurance**

Covers damages from accidents occurring while you are on someone else's property. When Needed: If you ever do some portion of your work on someone else's premises.

Estimated Cost of Average Coverage: Included as part of small-business insurance; otherwise, about \$200 per year.

#### **Special Computer Insurance**

Covers damage to your computer hardware, software, and data.

When Needed: When computer-related losses aren't adequately covered under your property- or small-business-insurance policies.

Estimated Cost of Average Coverage: \$89 per year for \$5,000 to \$8,000; \$109 per year for \$8,000 to \$11,000; \$129 per year for \$11,000 to \$14,000.

## Malpractice, Errors-and-Omissions, or Product-Liability Insurance

Insures against claims or damages that arise out of the services or products you offer.

When Needed: If your work—such as tax preparation—could inadvertently inflict an injury or loss on your clients or customers.

Estimated Cost of Average Coverage: Comes with small-business insurance; minimum premium approximately \$500.

#### **Health Insurance**

Covers costs of illness or injury. When Needed: Everyone needs health insurance.

Estimated Cost of Average Coverage: Premium is based on your age, the condition of your body, where you live, and whether your plan is group or individual. Blue Cross of California Individual Policy: \$250 deductible, \$161 per month; \$500 deductible, \$124 per month; \$1,000 deductible, \$79 per month; \$2,000 deductible, \$67 per month.

#### **Disability Insurance**

Protects you from loss of income when you are unable to work due to illness or injury.

When Needed: If your savings aren't sufficient to carry you for an extended period of time should illness or injury prevent you from conducting business.

Estimated Cost of Average Coverage: Based on age, income, and state of health. Earning \$35,000 per year to pay \$2,000 per month after 90 days = \$682 per year; earning \$100,000 per year to pay \$5,000 per month = \$1,562 per year.

#### **Worker's Compensation Insurance**

Compensates you for costs of work-related injuries and time off the job.

When Needed: Available primarily for employees, but if you're incorporated you can get this insurance for yourself. State regulations vary. May be called state disability insurance.

Estimated Cost of Average Coverage: Barebones coverage, about \$200 per year.

#### **Auto-Related Insurance**

Covers loss of business property in your car and costs of accidents when you or someone on your behalf is driving your car for business purposes.

When Needed: If you use your car for business purposes other than driving to and from work, especially if you transport equipment or merchandise in your car. Estimated Cost of Average Coverage: \$1,600 per year (includes regular accident coverage).

#### **Partnership Insurance**

Protects you against suits arising from the actions of any partners in your business. *When Needed:* If you have partners or do joint ventures.

Estimated Cost of Average Coverage: A \$500 fidelity bond.



Sometimes these "open-collar" workers are without insurance because they judge their risks to be too small to justify the cost of added insurance. Sometimes the cost of available insurance is simply beyond their budgets. This is particularly true for those without health insurance. But many homeoffice owners are going bare because they don't realize they aren't covered for business activities by their existing policies.

We were equally startled to discover that some people are desperate for insurance but can't seem to get what they need. Some have spent months searching with no success. Some have purchased insurance only to discover that it doesn't cover what they expected it would. One man, for example, purchased business-property insurance and later found it didn't include loss from theft or water damage. A computer programmer insured his computer with a separate policy, unaware that the insurance didn't cover loss of the data on his disks—just the cost of the floppy disks themselves. Still others told us about being turned down for insurance because they work from home.

As we interviewed business owners, we thought about our own home-based consulting and writing business. Our home and our business equipment are covered, but our data aren't. And we don't have business-interruption insurance. We had to ask ourselves which risk was cheaper in the long run: taking chances that disaster would not befall us or investing in insurance we hoped we would never need to use. We all must answer that question for ourselves. But here's our conclusion: Risk only what you can afford to lose.

In this article we want to clear up the major misconceptions and misunderstandings we uncovered about insurance for home offices so you can identify what you need, how you can get it, and when you should have it.

Begin by reviewing the Home-Office Insurance Checklist below. Then read through the following Insurance Myths and Truths to see whether you, too, may unnecessarily be going bare.

Insurance Myth: It Won't Happen to Me.

Insurance Truth: Bare Bottoms Can and Do Get Burned.

Insurance is just one of various approaches you can take to managing any risks that arise from doing business from your home. Minimizing the risk in the first place is, of course, the best method. Staying healthy, keeping up your property, doing good work, and maintaining valuable equipment are a few ways to minimize risk. Planning to absorb any loss that occurs is another. If peo-

ple rarely come to your home on business, or if you never carry business equipment in your car and don't have inventory, you might feel so little need for the specialized insurance that would protect you from liability claims, theft, or damage that you choose to "take your chances." In some cases you can shift the risk to others. Suppliers, for instance, can carry the risk of damage to materials or equipment in transit to you; customers can carry the risk on items you ship to them.

But let's consider a few all-too-real examples to illustrate why being insured can save you not only money—but in some cases your business. A computer consultant who specializes in hardware was delivering \$20,000 worth of equipment to a client when he was held up at gunpoint. Both his car and the equipment were stolen. The loss was not covered, because his property insurance didn't protect business equipment off the premises. So he had to pay for the stolen hardware as well as purchase new merchan-

#### **MONEY-SAVING TIPS**

#### **Health Insurance**

- **1.** Join the group policy of a company or organization with which you're affiliated.
- **2.** Check out hospitalization policies available from professional and trade organizations in your field, college alumni associations, and trade unions.
- **3.** Locate an insurance agent who specializes in placing small businesses in "multiple-employer trusts." Such trusts enable the small employer to get group rates and are available through companies like Mutual Benefit Life.
- **4.** Ask your local chamber of commerce if it makes health insurance available to members.
- **5.** See if Blue Cross insures self-employed people in your state. In 11 states Blue Cross will accept individuals regardless of their health status during their "open-enrollment" drives.
- **6.** Consider joining health-maintenance organizations (HMOs) and preferred provided organizations (PPOs). To locate such organizations in your community and find out which ones accept individual members, contact your local medical society or your city's Office of Consumer Affairs.

#### **Property Insurance**

Discounts on insurance rates are sometimes available if you protect your home as follows:

**1.** Fire/smoke alarms or smoke, heat, or ion detectors approved by Underwriter's Laboratory.

- 2. Dead-bolt locks on exterior doors.
- 3. Home-security systems.

#### **Disability Insurance**

- **1.** The longer the period after illness ensues before the insurer begins payments, the lower the premium.
- **2.** Costs can be halved if you cover the possibility of being disabled only up to age 65 rather than for your lifetime.
- **3.** Some credit cards, like American Express's Corporate Card, provide lumpsum benefits of \$10,000 to \$50,000 for small-business owners for an annual fee of \$45.
- **4.** Buying yourself a Worker's Compensation policy if you're incorporated can be a low-cost form of disability insurance for work-related disabilities.

#### **Auto Insurance**

If you drive a minimum number of miles, as many who work from home do, you may be able to be placed in a lower-risk category and thereby pay lower premiums.

#### **Small-Business Insurance**

Buying a small-business insurance policy can save you time and money if you would otherwise be buying a variety of individual policies, such as business-property, general-liability, business-interruption, errors-and-omissions, and special computer insurance. If, however, you need only one or two of these, you may save by buying just those you need.

dise to provide to his client. The resulting cash-flow crunch nearly bankrupted him.

Thirty-seven-year-old marriage-and-family counselor Nadine Barney was stricken with Epstein-Barr virus after five years of managing a successful counseling practice. Single and head of a household, she was unable to work and lost her business, her savings, and ultimately her apartment. She lived with her mother while she recovered and after three years was able to rebuild her business. She wishes she'd had disability insurance but admits she had never even thought about it.

Last summer, fires swept through Santa Barbara and Glendale, California. More than 450 homes burned to the ground in minutes. We were touched by a story about one woman who was at home proofreading chapters for a book she was writing when the kitten on her lap tensed and began acting strangely. The Los Angeles Times reported that she "saw a huge cloud of smoke billowing across the canyon. Suddenly a neighbor was yelling for her to get out. . . . She looked at the VCRs, the computers, the antiques and the clothes. She was still clutching the first few chapters of the book she had been working on and in the end, that's all she took when she jumped into her car when a law enforcement officer ordered her to leave.'

We wonder—did she have insurance to cover her business? If so, did it cover her computer? Did it cover the data? Did it cover the other losses she would experience from the interruption of her business? One way or the other, the answers to those questions have made a major difference.

## Insurance Myth: I'm Sure It's in the Policy Somewhere.

### Insurance Truth: You're Probably Not Covered.

It's one thing to decide to take your chances on not being insured, but it's quite another to discover that you needed insurance for a risk you didn't realize you were taking—or, worse yet, to think you're covered when in fact you aren't. The most common misunderstandings concern business-property insurance, liability insurance, and auto insurance. So let's straighten out the facts.

Your homeowner's or apartment-dweller's insurance most likely does not cover your business property. People often believe their existing homeowner's or apartment-dweller's insurance will cover any loss or damage to their business equipment, furniture, and supplies in the event of fire, theft, or other catastrophes.

In fact, basic homeowner's or apartment-dweller's policies usually explicitly exclude coverage for any business uses of your premises. A standard form for homeowner's coverage lists the exclusion like this: "Busi-

ness property pertaining to a business being conducted on the residence proper."

Check the restrictions and limits on your policy to make sure you have ample coverage for your business property. You may even find that running a business from your home voids your coverage altogether or that there are limits as low as \$200 on what you can recover in case of loss from fire, burglary, or other damage to "property used or intended for use in a business." Some policies, however, include \$2,500 in coverage for business equipment.

If you own a computer, you may want to get a special "floater" covering risks unique to computer owners or an endorse-

#### **INSURANCE RESOURCES**

Buyer's Guide to Insurance (National Insurance Consumers Organization; 121 N. Payne St., Alexandria, VA 22314; [703] 549-8050). For a copy, send \$3 and a self-addressed, stamped envelope.

Health Insurance Association of America (1025 Connecticut Ave. NW, Suite 1200, Washington, DC 20036). Consumer booklets.

Insurance Information Institute (110 William St., New York, NY 10038; [212] 669-9200).

The Insurance Almanac (Underwriter Printing & Publishing Co.; 50 East Palisade Ave., Englewood, NJ 07631; [201] 569-8808; \$95).

Risk Management: A Small Business Primer (U.S. Chamber of Commerce, 1615 H St. NW, Washington, DC 20062; [202] 659-6000; \$25 for members, \$42 for nonmembers, plus \$3 shipping).

101 Ways to Cut Your Business Insurance Costs Without Sacrificing Protection (William S. McIntyre IV and Jack P. Gibson; McGraw-Hill & Company, New York, NY; 1988; \$22.95).

ment to your homeowner's policy. In the event that a power surge destroys six months of work on disk, this kind of insurance can be well worth the expense. Special computer insurance costs between \$50 and \$200 a year, although policies covering data loss are more expensive.

Your homeowner's or apartment-dweller's insurance doesn't cover liability for accidents or injuries to business visitors. The standard homeowner's or apartment-dweller's policy protects you from personal liability if a guest is injured while visiting your home. But these policies do not protect you if the visit is business-related. This means that if clients, customers, or colleagues come to your home even occasionally, you need additional coverage.

If a UPS employee delivers a business package to your home, or if a colleague or

customer drops by unexpectedly, that's business, even if he or she wasn't invited. And if a repairman comes to fix your computer, that's business, too.

The good news is that most homeowner's or apartment-dweller's policies can be broadened to protect you by covering injuries to business visitors. Excluded from coverage through such an extension of a homeowner's policy, however, are claims for injuries or damage that result from the actual rendering of services or sale of products. Protection for these kinds of claims requires additional coverage such as malpractice, errors-and-omissions, or product-liability insurance, depending on your particular business.

And if you do any of your work in the homes of your clients, you may want general-liability insurance to protect you in case, say, you accidentally knock over and break an heirloom vase. Rarely would personal insurance protect you from risks such as this, but general-liability insurance would. It costs several hundred dollars a year.

Exercise caution when you shop for a general-liability policy. Make certain it will pay for attorney fees and other costs of defending yourself if you are sued—lawsuits are common nowadays. Defense costs have traditionally been covered without limit, but some carriers now set limits.

Your existing insurance probably does not cover business losses in your car. Sometimes people are surprised to discover that if while on a business trip they have an automobile accident or business property is stolen from their car, the damage or loss may not be



ance policy.

Let's say you're delivering the food and trimmings for a banquet you're catering and someone rear-ends your van. Will your auto insurance cover the injury? Risk-management consultant Fred Carter of San Francisco tells us that the carrier will probably cover that particular accident. But if you've led your carrier to believe you're using the car only for private pleasure or travel to and from work, when a claim is filed for an incident that occurred during business use, the carrier may not be willing to keep insuring you, or it may raise your premium.

So make sure your car is rated as a business automobile if it's used to transport equipment to be sold or used in your business, or if it is used to transport employees, clients, or customers.

#### Insurance Myth: It Costs Too Much.

#### **Insurance Fact: Home-Office Insurance** Often Is Surprisingly Affordable.

Attorney Arnold Goldstein states in his book Starting a Business on a Shoestring that the average cost of conventional business insurance can run from \$8,000 to \$10,000 per year. Only rarely would a home-based operation require such an investment. Some types of coverage add \$10, \$20, or \$30 to existing homeowner's insurance.

Stan Berman, a New York real estate investor, for example, has his computer equipment insured up to \$8,000 by State

covered under their existing property-insur- Farm Insurance as a part of his homeowner's insurance for a modest surcharge of \$15 a year. We've found similar coverage in the rider to our homeowner's policy from Prudential Insurance, also for \$15 per year.

> The same is often true for extending your auto insurance or liability insurance. And general-liability insurance costs only several hundred dollars a year. Insuring yourself against such risks can become more expensive, however, when you have so much inventory, equipment, or other business activity that an extension on your homeowner's or auto insurance is not feasible. Even then, a small-business policy can insure you for an additional \$250 to \$350 a year.

#### **INSURANCE RULES OF THUMB**

- 1. Risk only what you can afford to lose.
- 2. Never assume you're covered for business purposes on any personal policy.
- 3. Add additional coverage as your business profits and equipment increase.
- 4. Expect complete coverage and change agents until you get it.

#### Insurance Myth: I Can't Get It.

#### Insurance Fact: You Don't Have to Put Up with That.

Unfortunately, people working from home often run into problems getting insurance once they decide to buy it. On the Working from Home Forum on Compu-

Serve, we get several messages a week from people who can't find various types of insurance—particularly health and disability insurance. It seems there are even some companies that will not issue certain kinds of insurance to someone who is homebased. Sometimes a company will issue the insurance, but at a prohibitive cost. Worse, we've also heard that months can pass before a company will notify you that it won't cover you.

Warren Whitlock, who operates a lasercartridge-recharging business in Los Angeles, told us that after he went out on his own, his health-insurance premium rose to \$500 a month. Investigator and information broker Russell Koogler of Citrus Heights. California, found that most companies balked at issuing him an errors-and-omissions policy because he works from home. Mercury Auto Insurance denied us auto insurance for the same reason. But 20th Century Insurance did insure us.

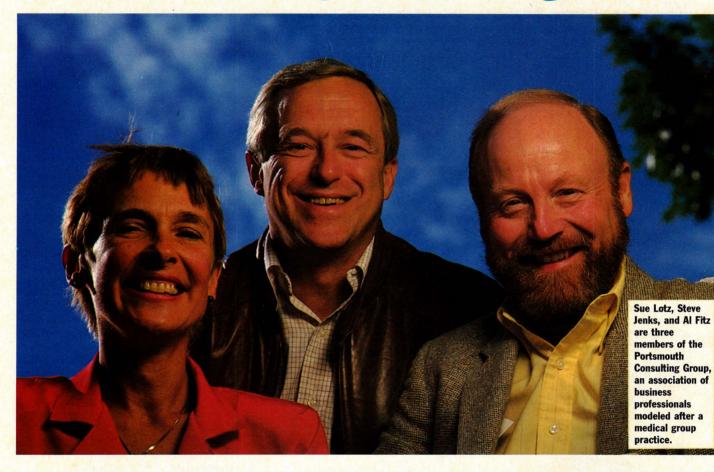
Despite the frequency of such travails, the insurance agents we spoke with assured us that if you work with a good broker who is sufficiently interested in you and your business, he or she will take the time to locate policies that will meet your needs. We agree.

Problems in getting insured arise because working from home is still somewhat unusual. It doesn't fit the normal pattern, and the insurance agent must make a special effort to consult the insurance company on what additional steps need to be taken. Bruce Norman, vice president of Mercury Auto Insurance, told us that when a person's livelihood can't be verified by an employer, the company scrutinizes the application more carefully. He therefore advises people working from home to allow at least 30 days for the processing of their application.

If you're having trouble obtaining any insurance you need, find a general agent who will take the time and make the effort to produce results for you. Be sure to check out the financial stability of any insurance company you're considering. To do so, ask your agent to supply you with the company's rating in The Key Ratings Guide (A.M. Best Company). Or look up the rating yourself at the library. A rating of A or A+ indicates a company that's likely to pay its claims; fewer than one in four companies censed to do business in your state.



# Far-Flung Colleagues



## Building a Decentralized Business with Remote Employees, Contractors, or Partners Brings Many Benefits

#### BY SHARON FIRST AND NICK SULLIVAN

f you run your own business, you've probably been tempted to expand by hiring homeworkers or to cut overhead by sending employees home to work. If your business has grown to the point where you are managing too many employees in a central office, you may yearn for a simpler management system. If you operate as a sole practitioner, you may long to affiliate yourself with a colleague or colleagues whose interests and work complement your

own. In any case, there is a solution—remote employees or partners.

Today's powerful computer and communications technology means that employees, independent contractors, and partners don't need to work in the central office. And the central office—if one exists at all—doesn't have to be bigger than the satellite offices.

Employees and independents can send in their work to the main office and to one another with modems and fax machines. (See "Electronic Mail: The Modern Way to Stay Connected.") That means companies save on office space, facilities, and overall equipment costs. Companies often appear larger than they really are—and they can expand quickly—which aids in landing

large jobs. And companies can hire the best person for the job, regardless of where he or she lives.

For professionals incapable of or uninterested in marketing themselves, working for a remote company—even if the contract is tenuous and the benefits nonexistent—is preferable to starting their own business.

#### THREE NEW APPROACHES

Jane Sandlar, founder and president of Support Our Systems (SOS) in Red Bank, New Jersey, has grown her business with a network of homeworkers. More than 40 writers, editors, project managers, and desktop-publishing experts produce computer-related documentation for SOS, and all of

SHARON FIRST is a freelance writer who has written for Working Woman and the New York Times; this is her first article for HOME-OFFICE COMPUTING. NICK SULLIVAN is a senior editor at the magazine.

them work virtually full-time from home. Some are independent consultants and some are employees.

Sue Rugge, who founded Information on Demand, a research company, sold it and started a more free-form company called the Rugge Group. "I got burned out managing 50 employees," says Rugge, who now oversees 20 or so independent contractors who live and work all over the world.

The Portsmouth Consulting Group is an affiliation of business consultants, with 16 partners who all run their own businessconsulting practices but call on one another for advice or help in undertaking large jobs. "We all have different backgrounds and work with different clients, so the mix of perspectives is helpful," says Sherman Grinnell, who conducts his business from a roving motor home.

Since these far-flung organizations are so novel, there is no proven model. But it's clear that such remote work groups, when set up so that everyone's role is clearly defined and understood, benefit managers and workers alike. Here are descriptions of the three different groups—all successful.

#### **SUPPORT OUR SYSTEMS: TEAMS OF HOMEWORKERS**

Support Our Systems provides computer documentation (computer manuals) and training to more than 80 corporations and government agencies. In 1989, revenues for the three-year-old company soared to more than \$1 million, a 40 percent increase over the previous year.

"I saw great potential in this area," says Sandlar, who founded SOS. "Since many corporations and agencies write their own computer applications for employees, they need clear, readable manuals for their users. Their own employees don't have the time or expertise to do it.'

With 40 homeworkers working full-time (only 18 are employees with health-insurance benefits), SOS has a minimal staff in its main office: a financial person, an administrator, four salespeople, two desktop publishers, a director of project management, and three project managers.

In addition to producing documentation, SOS delivers approximately 30 to 40 days of training each month to Fortune 500 companies. Since classes are held at the client site, SOS saves on office space that would have been necessary for classrooms. SOS maintains a catalog of 45 off-the-shelf courses ready for presentation.

To give homeworkers a sense of working toward a common goal, Sandlar organizes them in teams. A team of writers, editors, and desktop-publishing experts completes one document. A project manager oversees a few teams at a time. All team members meet with their project manager roughly

once every two weeks, usually in SOS's agement style a major factor in the compacentral office.

"People walk away from meetings feeling a lot has been accomplished on the project," says Sandlar. To encourage people to come to meetings, SOS provides a free lunch and pays consultants for the meeting time. Sandlar also meets with homeworkers individually on a regular basis. Over lunch or dinner, she listens to concerns about the project or about project managers. "This way, they know there is an open door of communication," she says.

#### **Employee Guidelines**

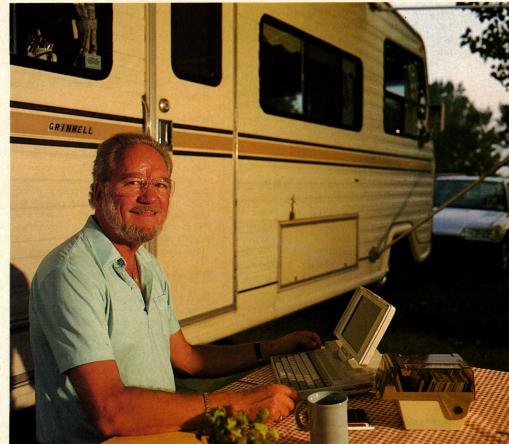
Since working at home requires self-discipline, SOS workers are required to have a desk or office that is not used for any other work and are encouraged to set regular hours. Project managers are responsible for keeping a project on track to meet deadlines. "Since people have a tendency to procrastinate, we give them a fixed amount of time to do their part of the project," says Sandlar. "When we're working with someone for the first time, the project manager monitors him very closely, calling once or twice a day."

Terry Simboli, an SOS project manager who works from home, finds Sandlar's man-

ny's success. "I love working with Jane. She values everybody's input, she listens and doesn't just give lip service, and she allows people to genuinely make contributions. It's quite a difference from the corporate world,' Simboli says.

Homeworkers must file weekly status reports to the director of project management. 'Every stitch of work that goes out is scrutinized by the project manager, the director of project management, and the editors," Sandlar says. Homeworkers can send in work anytime, but they are required to submit something at least once a week.

Submissions are sent in by modem (directly to the central office), Federal Express, or electronic mail (AT&T Mail, CompuServe Mail, or MCI Mail). The homeworkers are own hardware and software. "Just about own hardware and software and software." equipment, because we hire experienced homeworkers," says Sandlar. SOS does supply ProComm communications software when needed, but doesn't reimburse phone expenses. "We explain that, since they don't have to pay to commute to work, they can pay for phone expenses," says Sandlar.



Even though consultant Sherman Grinnell conducts his business from a roving motor home, he stays connected to his Portsmouth Consulting Group colleagues via an electronic network.

#### THE RUGGE GROUP: AN INTERNATIONAL POOL OF PROFESSIONALS

For Sue Rugge, starting a company that hired homeworkers was a way to cut back on direct management responsibilities. Rugge, founder of Information on Demand, sold the company in 1982, when the 50-employee company was billing \$2 million. She remained president until 1985, then signed a noncompete clause good for two years. In 1987, she started The Rugge Group, an Oakland, California-based coalition of independent researchers who track down information for lawyers, publicists, and consultants.

Rugge calls her contractors information specialists. The network is worldwide, and all members interact electronically, through MCI Mail and CompuServe.

Clients benefit from The Rugge Group's low overhead—almost all the researchers work from home—and from a large pool of people with expertise in different subjects. Researchers benefit because they get work they don't have to generate themselves.

"I got more requests for work than I could handle, so I went to several independent researchers, who were not very good at marketing themselves," says Rugge. "I said, 'I can draw people to you. If I give you a certain volume of work, you'll give me a discount on your billing rate. And I'll pay you in 30 days." Discounts vary, averaging about 25 percent less than the going research rate of \$75 an hour.

The independents continue to do their own work but cannot work for Rugge Group clients. "I have very loose agreements with independents, because I don't want to be responsible for their livelihood," says Rugge. "That's what I was trying to get away from."

#### Staying Small, Looking Big

Rugge says clients perceive The Rugge Group as a centralized company, not as a band of independents. From her office in Oakland, California, where she works with an assistant, Rugge does all the marketing. All client communications and billing are written on company letterhead. "I have a lot of client contact, which I like," says Rugge. "Marketing is my forte."

Rugge communicates daily with five or so of her researchers and about once a month with the others. Researchers are located in England, Argentina, Japan, Canada, and across the United States. She has met them all. "I've got a good feel for the different kinds of people. Quality control is something I watch very carefully.

#### PORTSMOUTH CONSULTING GROUP: AN ASSOCIATION OF PEERS

Both SOS and The Rugge Group are hierarchical organizations, built on the classic management-labor, employer-employee

model; the Portsmouth Consulting Group is tice. Nine of the consultants run their busian association of peers. Sixteen business consultants across the country run their own separate practices but they belong to a work group modeled after a medical group prac-

nesses from home.

Each partner in the group can draw upon the resources of other partners to provide more comprehensive services to clients. For

#### **ELECTRONIC MAIL:** THE MODERN WAY TO STAY CONNECTED

How do people in a decentralized company communicate? By telephone, fax transmissions, and electronic mail messages (often called e-mail). The first two techniques are widely used and understood, but e-mail can be a stumbling block for some people. It's worth overcoming initial hesitation or difficulties, however, for e-mail is the glue that can hold together a network of coworkers in different time zones and with different schedules.

Aside from the mechanics of e-mail, which can be mastered with a little practice, many people wonder about the benefits of electronic communications. For instance, why and when is e-mail better than a phone call or a fax transmission? Here is a question-and-answer guide to the benefits of e-mail.

#### What is electronic mail?

The concept of e-mail is similar to that of postal mail. You send a message to another mailbox, and the intended recipient opens the mailbox to retrieve it. The only difference is that e-mail uses no paper: You prepare an electronic message on your computer and send it to an electronic mailbox housed in a central computer system.

#### What are the main advantages of e-mail?

First, you can send messages of virtually any length, from short memos to full-length reports, and prepare the message more quickly than a letter or a fax. Second, you can send a message any time of day or night and know that it will arrive in the recipient's mailbox within minutes (although it can take up to a half hour). You can deliver the message when it suits you, and read mail at your convenience. For all these reasons, electronic mail is an efficient way for busy people to communicate.

#### What are the main disadvantages of e-mail?

First, if the people you want to reach don't check their electronic mailboxes, e-mail has no value. Your message will go unread. Second, unless you and your intended recipient use the same software to create and read messages, your e-mail message will arrive as plain-vanilla text on a computer screen. Forget fancy formatting features, forget your letterhead. Thus, the message may not have the impact that a letter printed on letterhead does. Similarly, you can't send a newspaper clipping or any other paperwork via e-mail. In those cases, a fax machine is the necessary tool. Finally, there are times when you need to talk directly with someone, to try out an idea or argue a point. Though you can do so with e-mail, the

exchange might extend over several days, as opposed to a 15-minute phone call.

#### How do I connect to an e-mail system?

To connect your computer to the phone lines, you need a modem and communications software. That will allow you to dial the phone and send a file to an e-mail system. To access the system, you must be a subscriber. When you subscribe, you'll get a telephone number to call, an account number, and a password, which you need to open your mailbox. All messages are private, unless you are connecting to a public network.

#### What's the difference between e-mail and a bulletin board?

You send e-mail to an individual or several individuals. But only one person (presumably) has the password to open a given mailbox and read the message. Thus, you can't post a message for several people to see and comment on.

On a bulletin board, messages are posted publicly, as on a supermarket bulletin board. Anyone who cares to scroll through the message board will read your message and all others from different senders. And anyone may leave a response for others to see. Such a network encourages a dynamic exchange of ideas and viewpoints.

#### How expensive is e-mail?

Costs vary from system to system. On MCI Mail, one of the most popular systems, annual registration costs \$25. You can pay a flat fee of \$10 a month, which allows you to send up to 40 messages, or you can pay each time you send a message (45 cents for the first 500 characters). You access MCI Mail via a toll-free number and pay nothing to receive messages. On CompuServe Mail, you pay for connect time (\$12 per hour during business hours) and not by the message, so the cost depends on how long you spend on-line

#### What else can I accomplish with e-mail?

You can send the same message to as many people as you like, just by entering their names and e-mail addresses. Thus, you could send a memo to 10 coworkers in different parts of the country with little extra effort. You can also send a message from your computer that will print out on a fax machine, thus reaching people who don't have electronic mailboxes. Also, you can send a message from your computer that will be laser printed on a replica of your letterhead (with your signature) and delivered to a postal address within four hours.



Jane Sandlar (seated on desk) runs Support Our Systems, a computer documentation and training company, with the help of more than 40 home-based workers. Writers, editors, and desktop-publishing experts work in teams, which gives them a sense of working toward a common goal.

example, if an expert in human resources or organizational management needs a technology briefing, he or she can ask another member for advice or to take on part of the job.

Partners are not bound by any financial or legal ties. The only real requirement of membership in the group is attendance at the triannual PCG meetings. "We all force ourselves to drop whatever we're doing and get together for three days," says Stephen Jenks, group cofounder (and a member of HOME-OFFICE COMPUTING's advisory board).

"I think we all get a lot from those meetings," says the peripatetic Grinnell, whose specialty is helping leaders make their organizations more productive and satisfying for employees. "We share our professional and personal experiences, ask advice, and get educated on future issues. It lets you know you're not alone."

Besides the face-to-face meetings, members communicate frequently through the Unison electronic network, where messages are posted for all other members to see and respond to. Since PCG was formed in 1980, when computers were rarely used in business, the group's existence and strength can't be tied to technology. But the use of electronic networking certainly has sped the exchange of ideas.

"Unless we had ongoing work projects with each other, the only time we saw one another was at the regular meetings," says Grinnell. "Now we stay connected on an ongoing basis."

Barbara Bunker, who spent four months as

a Fulbright lecturer in Japan, plugged into the network when she returned to the United States. "I felt like I was walking right back into the nest," she says.

into the nest," she says.

Says Jenks: "Three or four of us are working on a long-term contract with Exxon Chemical to design a training course. All design and redesign of the course is done over the computer, without face-to-face meetings. At the same time, if we could get a good group voice-mail system with an 800-number, we'd probably use that, too."

#### **Marketing Advantage**

In its classy brochure, which describes the group and each partner, PCG lists an impressive roster of current and recent clients, including Apollo Computer, Bell Atlantic, Digital Equipment Corporation, Exxon Research & Engineering, GTE, Honeywell Information Systems, Polaroid Corporation, Prime Computer, Liberty Mutual, Touche Ross, Beth Israel Hospital, Bankers Trust, Boise Cascade, Corning Glass Works, Ford Motor Company, General Electric, 3M Company, and others. Obviously, affiliation with a group that can attract such a dignified list of clients helps each individual partner attract more business than he or she might if working in isolation.

"The group conveys to the client a sense of permanence," says Jenks. "The medical group metaphor excites clients. They know they're not getting a faceless entity, and they also know they're getting something more than an individual. And for those of us who

are white males, it's good to be part of a group that includes women and people of color. Our diversity has been a plus in landing jobs."

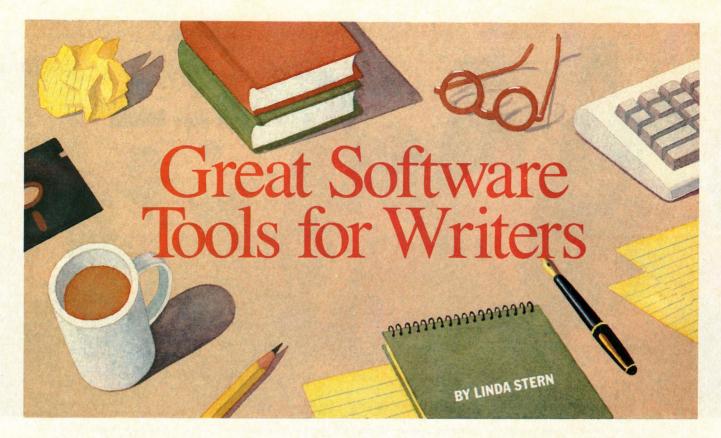
Says Fritz Steele, a partner who specializes in the diagnosis, design, and management of physical work settings, "That's not why we work together, but association with the group does help us market our services. The real reason we work together is because we like one another and we learn from one another."

#### WIN-WIN

Building a network of independent homeworkers is a solution to many potential problems a small, growing business might face. Centralized companies need more office space and equipment. Thus, a growing company can save on overhead, and the manager can spend less time managing and more time marketing and planning.

Such a network also allows a small company to expand and contract to meet increased or decreased demand. A side benefit of hiring homeworkers, wherever they might live, is that you can hire whomever you want and expect the best of them. In a mobile society, with a shrinking pool of qualified professional workers, that may be the best reason to start a network.

From the homeworker's perspective, affiliation with a decentralized company or group also has benefits. The professional can work from home, bring in work more easily, and maintain contact with colleagues.



very play that Eugene O'Neill created was written with No. 2 pencils on legal pads. Long Day's Journey Into Night, Moon for the Misbegotten, The Emperor Jones, and 42 other works were scribbled out, scratched over, and rewritten in his own hand.

When that hand developed tremors that were so bad he couldn't write, O'Neill gave up his craft. He refused all offers of dictaphones, tape recorders, and typewriters, complaining that technology interfered with the dialogue. He stopped writing.

Today it's hard to find a writer with the Luddite bent of O'Neill. Word processors have become the basic tool of the trade for all but the most resistant journalists, copywriters, poets, and fiction writers. Just as important, many writers have moved beyond the basic tools and now rely on software for every aspect of their work.

Many writers use databases to keep records of their submissions. They mail-merge proposals to editors. They use modems to transmit copy and perform the on-line research that has become the journalist's mainstay. They generate ideas, check grammar, and outline work with increasingly sophisticated programs. Finally, to combat the loneliness that sometimes characterizes writers' lives, they network on-line, join bulletin boards, and form special-interest groups that allow them to critique one another's work, pass along tips, and generally maintain ties within their geographically widespread

LINDA STERN is a contributing editor for HOME-OFFICE COMPUTING.

For Everything from Generating Ideas to Tracking Submissions, Writers Rely on More Than Word Processors

community.

Here are some of the many ways people use computers to run a writing business.

#### **MANAGING SUBMISSIONS**

Poet and essayist Louie Crew, a Rutgers University professor who has published 768 works under five different names, says it takes most editors 1.8 months to respond to a submission. Although one of his poems was rejected 128 times before it was finally accepted by a literary magazine, on average one poem will be accepted for every four submitted. He now has 103 poems and 10 essays awaiting responses from publications. Crew knows all of this because Muses, the writers' program he created, tells him so.

Crew could be called the computer king of creative writing. Besides Muses, a shareware program that prompts, prints, addresses, and tracks his submissions, Crew has written programs that check style, generate ideas, and beep when the writer goes beyond basic English vocabulary.

Muses, the basis of Crew's writing business, tracks his submission records, stores formatted cover letters for merging with editor files, and keeps a calendar of deadlines. He uses his software at least three times a week—more if he receives correspondence about his work.

Muses prompts him to write at least one query (a proposal, in writer's parlance) every seven days. Recently the program spit out 13 reminder letters of the it's-beenthree-months-since-you-received-my-manuscript variety in 15 minutes, after telling Crew exactly which publications were ripe for reminders. And whenever Crew enters an assignment for a forthcoming literary contest or a special issue with a deadline, the deadline date blinks every time he reviews that entry.

Once Crew notes that a manuscript has been returned, Muses prompts him to send it out again and suggests a list of appropriate publications, sorted by their suitability for a particular piece.
manuscript stays on my desk for more than control of their suitability for a particular piece.
The manuscript stays on my desk for more than control of their suitability for a particular piece.

#### **GENERATING IDEAS**

Sometimes even the best writers find themselves up against the wall of writer's block. Anything is better than staring at a blank screen and a blinking cursor, so some people have turned to idea-generating programs for inspiration.

One such program is Heizer Software's *Idea Maker*, a spreadsheet template that delivers random word pairs from a 1,400-word database. The program comes with its own list of words, and you can add more. The theory behind *Idea Maker* is that a writer can sometimes jar his or her own creativity by scanning unlikely and unusual word combinations. It encourages people to think differently. For instance, marketing writers have used *Idea Maker* to come up with product names and slogans. Another popular idea-generating package is *Idea Generator Plus* for the IBM PC, published by Experience in Software.

Crew has written a similar program, called *Invent*, that takes up to 40 words, entered according to their parts of speech, and forms them into random sentences. Some sentences make sense; some don't, but often they're enough to jar the user.

Stephen Cunliffe is a Los Angeles-based British businessman who writes essays that contrast European and American customs. He uses HyperCard on the Macintosh as an idea generator to jog his memory. Cunliffe sets up two HyperCard stacks, or lists—one for story ideas, the other as a scrapbook of random thoughts. Whenever Cunliffe has a midnight revelation or a brilliant thought while cruising the California freeways, he enters it immediately into the tape recorder he always carries. Every few days he types these ideas into his HyperCard scrapbook, which holds hundreds of thoughts, quotes, facts, and snippets of information. When he is ready for a topic, he searches the scrapbook stack for key words, often finding relevant information that he had forgotten. "It's like a memory extension that doesn't weaken over time," says Cunliffe. "It makes me much more creative.'

#### PERFECTING PROSE

Many writers use computers to clean up their writing and improve their style. A spelling checker is the most common method, but more and more word processors, such as *WordPerfect* and *WordStar*, now have a built-in thesaurus as well. Stand-alone thesaurus programs, including *WordFinder* for the IBM PC and Macintosh and *The Big-Thesaurus* for the Macintosh, are also available.

Several other programs go well beyond checking spelling and suggesting synonyms. Judson Jerome, a poet and the poetry columnist for *Writer's Digest*, recommends *Poet's Companion*, a rhyming dictionary available from Writer's Software in Cleveland, Tennessee.

John Myers, a Washington, D.C., mystery novelist, uses a style checker called *RightWriter* for MS-DOS and Macintosh computers, published by RightSoft. As this type of word-processing add-on goes through a manuscript, it checks grammar and makes

suggested changes. The program can edit a variety of styles, such as fiction, general business, and technical writing. It will find such problems as disagreement between subject and verb, and Myers's own Achilles' heel, the passive voice. "I can almost predict what it's going to say," he says.

A problem for many prolific writers is overreliance on the same words and phrases. Louie Crew uses *Profile*, a utility that comes with Reference Software's *Grammatik* program, another popular style checker. *Profile* lists all words used according to frequency. When Crew finds that he's using a word "way too much," he goes back and edits himself.

Coming in the future are affordable full dictionaries, quotation books, and encyclopedias on optical disks (CD-ROM) that can be read by computers. I write "future" because while the technology is already here, current prices put these items beyond the reach of many self-employed writers.

#### **RESEARCHING ON-LINE**

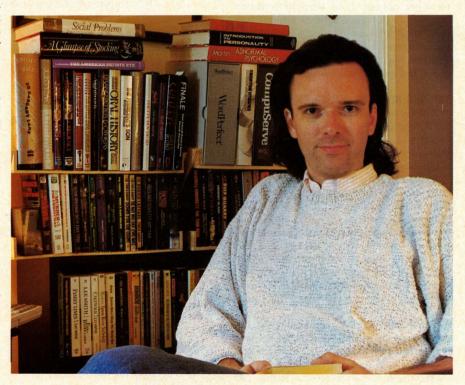
If it's possible to isolate one computer development—other than word processing—

that has proved the most valuable to writers, it might be on-line research. A quick call into the right database can save time and many trips to the library, albeit at a cost.

John Myers puts a lot of stock in authenticity—he wants his mystery novels to reflect a knowledge of the worlds about which he writes. When he had to find out about the psychology of serial killers, he set up a file in the Executive News Service, a clipping service on CompuServe, the largest national bulletin board. He did the same thing when he had to set the mood for a story about Nashville's country-music scene.

The newspaper and wire-service stories that the service retrieved gave him more than enough detail for his stories, and he didn't have to go to a single prison or redlight district to research them. The Executive News Service costs \$15 an hour in extra connect charges.

Connecticut writer Bill Clede recently gave some examples in a presentation to the technology task force of the Society of Professional Journalists. A 33-minute search for articles that mentioned Candlewood Lake in Connecticut found three citations, including



When John Myers needs authentic details for his mystery novels, he researches the information via the Executive News Service on CompuServe.

one article that gave him just the background he needed. The search cost \$13.43, but Clede saved a trip to the library and hours of research, and turned up articles he might not otherwise have found.

Because of the expense involved, it's important to learn the art of defining the search. Otherwise, says Clede, only half jokingly, you can end up with stories about Venetian blinds when you wanted stories about blind Venetians.

#### ORGANIZING THE WRITING

After research, but before polishing, comes the process of putting the piece together. In this regard most writers have two words to say: split screen. The ability to go back and forth between notes or articles (that may have been garnered on-line) and the story at hand is another big time-saver.

Christopher Madison, a Washington, D.C., reporter for the *National Journal*, is a typical example. He's writing a book about the House of Representatives and has more than 60 interviews with members of Congress and legislative experts on disk. As he writes, he keeps interviews on the top half of his screen and the chapter he's working on at the bottom. If he needs information on, say, political-action committees (PACs), he does a word search for PACs on the interviews he thinks will be pertinent. Then he copies the quotes from the interviews and pastes them into his own text.

#### TAPPING INTO THE COMMUNITY

Bill Clede's use of on-line services goes far beyond research. He is to telecommunicating what Louie Crew is to record keeping—Clede is ready for the paperless world of the future we all used to read about.

Besides doing almost all of his research on-line, Clede finds sources, checks facts, and conducts interviews the same way. He transmits most of his copy by modem and has created catalogs for CompuServe of editors who want to buy stories on-line and writers who want to sell them. He created files of stories from writers all over the country who have pieces available for sale. "Being on-line makes money for me," Clede says.

Using bulletin boards and on-line specialinterest groups to find sources helps Clede and many other writers find geographically diverse sources for roundup stories.

And it also helps writers find friends and colleagues. Companionship is not one of the benefits usually associated with the free-lance lifestyle. Too often the work-at-home writer has no one to share ideas with, no one to complain to about editors. That's where the bulletin boards and special-interest groups come in.

Most of the writers interviewed for this story communicate with one another on the Literary and Journalism forums on Compu-

Serve. They encourage one another, share tips (and occasionally job leads and agents), and, on the Literary Forum, critique one another's work.

Myers has uploaded particularly difficult passages to see if his dialogue and prose ring true to his colleagues. On the Journal-

One old idea certainly appears dead: that creativity and technology can't coexist, that creative people don't like computers.

ism Forum, there's a database of sources and a jobs file for industry professionals. There's also a fair amount of gossip and the kind of issues-oriented conversation that one might hear in a newsroom.

#### CREATIVITY AND TECHNOLOGY

Much of that on-line chatter is about the technology, as writers pick and choose from among those that work best for them. Some are still learning to use word processing; others have moved far beyond. A few have picked up new computer habits while discarding others.

But one old idea certainly appears dead: that creativity and technology can't coexist, that creative people don't like computers.

"Once you get familiar with computers and telecommunications, you'll wonder how you ever survived with only a typewriter," Clede recently told the technology task force of the Society of Professional Journalists. It appears that most of his colleagues already agree.

#### SOFTWARE INFORMATION

Here's where to find out more about programs featured in this article.

The BigThesaurus
Deneba Software
3305 N.W. 74th Ave.
Miami, FL 33132
(305) 594-6965
Price: \$100
Available for Macintosh

available for Windows

Grammatik

Reference Software International 330 Townsend, Suite 123 San Francisco, CA 94107 (415) 541-0222 Price: \$99 Available for MS-DOS and Macintosh; also

Idea Generator Plus
Experience in Software Inc.
2000 Hearst, Suite 202
Berkeley, CA 94709
(800) 678-7008 or (415) 644-0694
Price: \$195
Available for MS-DOS

Idea Maker
Heizer Software
1941 Oak Park Blvd., Suite 30
P.O. Box 232019
Pleasant Hill, CA 94523
(800) 888-7667 or (415) 943-7667
Price: \$9
Available for MS-DOS (using Excel) and Macintosh (using Excel or Works)

Four Programs for Writers (includes Invent, Basic English, Styled, and Poetease)

Dragon Disks Box 30 Newark, NJ 07101 (201) 485-4503 Price: \$7.50 Available for MS-DOS

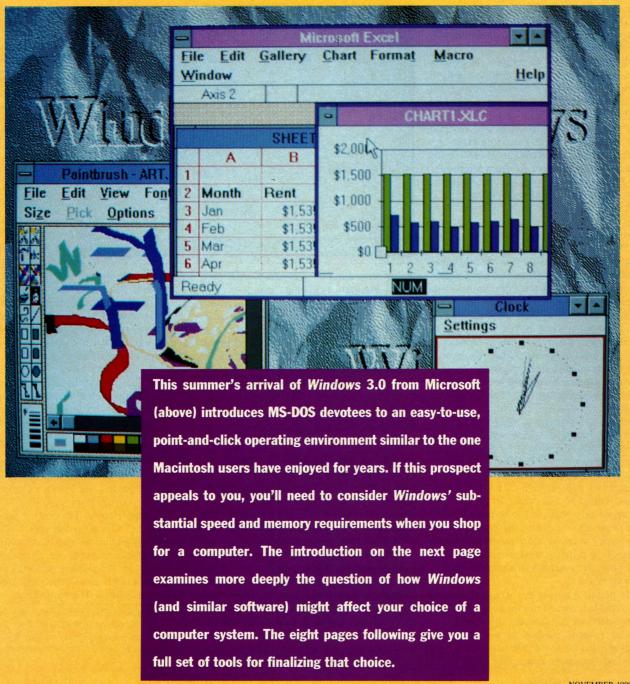
Muses
Dragon Disks
Box 30
Newark, NJ 07101
(201) 485-4503
Price: \$15
Available for MS-DOS

Poet's Companion
Writer's Software Inc.
1005 AGC Dr.
Cleveland, TN 37312
Price: \$30, plus \$3 shipping
Available for MS-DOS

RightWriter
RightSoft, division of Macmillan Computer
Publications
11711 N. College Ave.
Carmel, IN 46032
(317) 571-3465
Price: \$95
Available for MS-DOS and Macintosh

WordFinder
Microlytics, Inc.
Two Tobey Village Office Park
Pittsford, NY 14534
(800) 828-6293 or (716) 248-9150
Price: \$60
Available for MS-DOS and Macintosh

# Computers for the Year of Windows



# A Map to the

# Bumpy Road of Computer-System Shopping

hoosing a computer system isn't easy—for any of us. It involves balancing the answers to many questions: What do I need now? What will I need next month? Next year? What do I want (not to be confused with What do I need)? How much should I spend? How much can I spend?

It's much like choosing a car—especially in terms of balancing needs against desires. Judging from what we see on the roads, few people choose the bare-bones Ford or Chevy—even for basic business purposes.

The first question facing computer-system shoppers is, Do I want to cast my lot with the Macintosh line, which is easier to learn and use and better at graphics but expensive, or the IBM and compatible family of computers, which are more affordable, better at business applications but more difficult to use?

If you're considering IBM and compatible computers, there's an important new question: Do I want to run *Windows* (the long-awaited *Windows* 3.0 from Microsoft)? And there's another question underlying that one: Do I want to streamline my way of working? *Windows* is only the most recent and most visible tool in a major work-style revolution sweeping the IBM world.

The essence of the new work style is quick and easy access to all the computer-related tools we use. It means being able to jump from application to application with the click of a mouse or the touch of a key, which in turn means saving time and not losing our train of thought while moving between tasks. Ultimately, it means using our computers the way we use our minds, rather than forcing our minds to work like computers.

At this point Macintosh users will ask, You mean like on the Mac? For, indeed, the Mac's revolutionary, easy-to-use graphical interface is a primary model for the revolution now hitting the IBM world. And, indeed, Windows is similar to the Mac interface in many ways. Briefly, it provides a consistent, mouse-driven interface with similar menus and procedures for all applications written to run under it. It lets users move quickly back and forth among different programs—and with the right hardware can even run two or more programs simultaneously. It provides desk accessories (like a calendar and notepad) that can be accessed at any time.

In practical terms, this would, for example, enable a user to run the company orderentry database simultaneously with the accounts payable module of the accounting package *and* the word processor—to refer to the text document containing notes on the memory. Multitasking software demands a

company's accounting procedures. With Windows, a person editing a report could quickly and easily clip needed data from a spreadsheet and paste it into the report—without having to exit the word processor. The busy executive can leave his or her appointment schedule running in a screen window, accessing it with a single mouse click whenever needed.

There are other software packages that offer functions similar to Windows', al-

386 or 486 processor and 2- to 4MB or more of RAM. The operating system OS/2, with its graphical user interface, the Presentation Manager (the product Microsoft thinks will eventually replace *Windows*), requires a minimum of 2.5MB of RAM.

This is more horsepower than most of us require to run the stand-alone applications that are our daily bread. Is it worth it? We think so. *Windows*-style seamless access is a real sea change—as we expressed it above,



Windows' graphical interface uses icons to represent application programs (above) and system accessories (below). To run a program, you simply point to the appropriate icon with the mouse and click the button.

though they don't have graphical user interfaces. Program switching, using software like Headroom or Software Carousel, is similar to moving among applications in Windows. Multitasking software packages like Desqview/386 or VM/386 allow simultaneous operation of several applications as well as quick movement among them. Desqview also facilitates data transfer between programs. (Note, too, that for anything resembling seamless integration under Windows, your applications must be written specifically to run in the Windows environment.

Work style (Windows or otherwise) becomes a factor in choosing a computer because seamless access to tools takes the right software—and the right software requires the right hardware. Windows, for example, runs slowly compared to many other applications. It needs at least the speed of a 386SX microprocessor to operate at a comfortable pace. Its multitasking and memorymanagement functions require a 386 (SX or DX) or 486 microprocessor for full implementation. And working freely with a number of full-featured applications under Windows calls for substantial amounts of memory-from 2- to 4MB. Program switching calls for a 286 processor and at least 2MB of a revolution—in the way we work with computers. It's similar to the one brought about by the hard-disk drive. (Remember what computing was like before the hard disk? Would *you* want to go back?) Only you can decide whether it's worth it to you. But then the question becomes, perhaps, *Windows* or Mac? It isn't easy.

This buyer's guide is designed as a set of tools to help you chart a course through the murky waters of the desktop-computer market toward the system that's just right for you. Our five-minute quiz, "How Much Computing Power Do You Need?" will help you pick the right level of computing power for the work you do. Our shopper's guide, "What to Look For in a Computer," will help you think through all your other system requirements. The chart, "Specifications for 117 Computer Systems," will give you the big picture on what's available. And the manufacturer profiles in "Searching for the Perfect PC" detail five computer product lines that seem to us to offer some fresh and useful possibilities. Happy hunting.

STEVE CHEN and TED STEVENSON are technical editors for HOME-OFFICE COMPUTING. Since compiling this buyer's guide, neither has been able to decide which is the best computer-system to buy.

### **How Much Computing Power Do You Need?**

#### Take Our Five-Minute Test and Find Out

As desktop-computer models proliferate—especially in the IBM and compatible world—the process of selecting a system becomes more and more confusing. The key to selecting the right system for your needs is picking the right computing-power level (which means picking the right microprocessor [CPU]). This is because other important features—like hard-disk-drive and RAM capacity—are generally geared to a system's basic level of computing power. This short quiz will help you determine the level of computing power that best suits you.

#### What will you do with your computer?

Choosing the right computer-power level requires an accurate analysis of the tasks for which you use your computer. Determine current computing needs by looking at tasks you *now* perform regularly. Your choice of a system should also take into account future needs, so think ahead: How will you be using your computer in a year or two?

In the chart below, look down the left column to find the applications that you currently use in your business. For each application, check the column (Level 1 through Level 4) that best represents the complexity and/or the volume of work you do. If you think either the complexity or the volume will grow in the future, check the column for the highest level you anticipate. Where we have merged columns, use experience as a guide in appraising your needs, and check the level that suits your situation.

#### Scoring

The highest column (Level 1 through Level 4) in which you placed two or more check marks represents your proper CPU-power level. Read down the appropriate column past the double line to see the CPU or model appropriate to your needs.

Mac buyers at Level 1 have three choices: the SE, the Classic, and the more powerful LC. At Level 2, there are four Mac alternatives: The SE/30, IIsi, and IIcx have the same CPU power but different features and prices. The LC is somewhat less powerful. Check "What to Look For . . ." and the main chart for details on prices and features. Buyers of IBM and compatible systems at Levels 2, 3, and 4 will also need to do a final narrowing-down, as each of these includes a range of microprocessor clock speeds. Choose between the lower and higher processor speeds based on the complexity and/or volume of work you anticipate. When in doubt—budget allowing—opt for more speed and power.

#### The real cost

Once you have determined the power level that fits your profile, it's time to consider the reality of purchasing a system. What happens if the price of systems at your level is out of your reach? Three shopping points to consider: First, the prices quoted here are list prices. For all but directsales-only products, you should be able to find systems at discounts of between 20 and 35 percent. Second, within each level, there is a wide range of prices; a careful search may turn up a system that you can afford. Third, don't ignore the tax factor. If you're running a business, you can "expense" (deduct from gross income) up to \$10,000 for necessary business equipment in any tax year (as long as the deduction doesn't exceed the business's income). This means that the actual cost to you is reduced by the purchase price times your tax rate. For example, if you pay \$6,000 for a system and you are in the 40 percent tax bracket, the purchase will produce a \$2,400 reduction in your tax bill, making the effective cost of the system \$3,600. If the numbers still don't work out for you . . . go with the most powerful system you can afford.

APPLICATIONS	Level 1	Level 2	Level 3	Level 4	
Word Processing	Text and some simple graphics	Text and extensive graphics	Windows-based		
Spreadsheets	Simple	Complex	Very large and complex		
Database Management	Small (fewer than 500 records)	Medium (500 to 1,000 records)	Large (more than 1,000 records)	Very large (several thousand records)	
Desktop Publishing	Light, text only	Text, simple graphics	Frequent	Full-time business	
Telecommunications	Light usage	Frequent, high volume			
(For IBM and compatibles) Graphical User Interface (Windows or DeskMate)		One or two Windows applications	Several non-Windows or Windows applications	Many applications	
(For IBM and compatibles) <b>Multitasking</b> (with Desqview/386 or VM/386)		Three or four applications	Many applications	Many applications, heavy multitasking	
Personal Money Management	All types				
Accounting	Personal	Part-time business	Full-time business		
Financial Planning	Personal	Part-time business	Full-time business		
Graphic Design, Presentation Graphics	Personal, light	Personal, moderate	Part-time business	Full-time business	
Optical Character Recognition (OCR)	Handheld scanner; small amounts of text	Handheld scanner; larger amounts of text	Large amounts of text (ma	any pages per day), using	
Programming Progra	Personal, light	Personal, moderate	Part-time business	Full-time business	
Statistical Analysis	Simple	Moderate	Complex		
Computer-Aided Design (CAD)	Personal, light	Personal, moderate	Part-time business	Full-time business	
Desktop Presentations			Occasional and/or simple	Frequent and/or complex	
SYSTEMS	Level 1	Level 2	Level 3	Level 4	
IBM and Compatibles	286, 12-MHz or faster	386SX, 16- or 20-MHz	386DX, 25- or 33-MHz	i486, 25- or 33-MHz	
List price (complete systems )	\$2,000 to \$3,000	\$2,500 to \$4,500	\$4,500 to \$8,000	\$9,000 and up	
Macintosh	SE, Classic, or LC	LC, SE/30, IIsi, or IIcx	Ilci	IIfx	
List price (complete systems)	\$1,900 to \$3,500	\$3,000 to \$8,350	\$9,300	\$12,750	

# Searching for the Perfect PC

#### **Five Product Lines That Are Worth a Look**

Finding the perfect computer is an elusive and intensely personal quest. Your sine qua non in a desktop system, for example, might be state-of-the-art computing speed. Mine might be the best possible keyboard. For someone else, support may be everything . . . or lots of extra goodies . . . or footprint size . . . or the lowest possible price . . . or even the color.

In an effort to help you find your own

personal best, we've profiled five lines of desktop computers—each with a distinctive slant that sets it apart.

If ease of use appeals to you, look at Apple Macintosh first. If an easy upgrade path tops your priorities list, AST Premium systems should be high on your shopping list. If you're looking for a good bargain with strong technical support and you're mail-order savvy, the CompuAdd line may be just what

you're looking for. Hyundai offers solid, nofrills PCs at rock-bottom prices. And for those just starting out, who don't have a lot of software, Magnavox HeadStart systems, with its extensive software bundles (and hardware extras like a mouse, a modem even a CD-ROM drive on certain models) deserve a second look.

These systems aren't perfect, but one of them just might be perfect for you.

#### **Apple Macintosh**

The Apple Macintosh was born out of the idea that computers ought to be easy to learn and use, that no one should have to master cryptic languages or type lengthy commands in order to get the job done. To this end, Apple developed a point-and-click, mouse-based operating system for its Macintosh computers that still reigns as the most intuitive, easy-to-use interface available. Since the Macintosh treats everything as a picture, it is naturally suited to picture-related tasks, and graphic artists immediately adopted it as their computer. It is also the computer that gave birth to desktop publishing.

On the other hand, for years most business people rejected the Mac as inadequate (too slow and software-poor) for serious business computing—and too expensive. However, between Apple engineers, developers of Macintosh software, and Apple marketing people, these objections have largely been answered. Recent Mac models, (the IIci and IIfx, for example) are as fast as anything the IBM world has to offer. The range of Mac software now includes first-rate business applications in every major

category. And three recently announced Mac models—the Classic, the LC, and the IIsi—make the Mac advantage available at IBM-like prices (see Product Previews).

Developments in technology and software were driven by the normal desire to expand markets, but what about pricing? The Macintosh hardware market has always been a monopoly. There has been no competition to drive down prices. Suddenly, prices are dropping, but in response to what? Competition, in the form of a software package—Windows 3.0—that makes an IBM or compatible computer work much like a Mac.

But how much like a Mac? Let's detail the advantages of the Macintosh operating system: All models work the same way, and (nearly) all software operates in a consistent fashion. Thus, switching from one Mac to another or from one package to another, or learning the fundamentals of new software, is a simple matter. File names are less restricted in length than they are under MS-DOS. Organizing files with the Mac's folder system is easier than with the MS-DOS tree system.



By contrast, *Windows* 3.0 works best on a 386 computer with at least 2MB of memory (that is, a small percentage of machines in use), and many popular IBM applications don't support *Windows* 3.0. Even those that do are still ultimately dependent on MS-DOS for managing files. In short, *Windows* 3.0, while a major step forward for MS-DOS users, doesn't turn an IBM or compatible computer into a Macintosh.

The choice between Mac and IBM is no longer clear-cut. Mac-like functionality is now available to IBM and compatible computers, and true Mac functionality is available at something close to IBM prices. It may come down to a question of who prefers to have "the real thing."

#### **AST Premium**

AST Research got its start as an add-on-board manufacturer in the early days of the IBM PC. Since then, it has transformed itself into a top-rank PC maker and now offers one of the most complete lines of IBM-compatible computer systems in the industry. Models range from the Bravo/286, a small-footprint 286-based system, to the Premium 486/33E, a 33-MHz i486 with supplementary high-speed memory cache and Enhanced Industry-Standard Architecture (EISA).

The innovation that makes AST's Premium line of computers stand out from the pack is the CUPID-32 architecture. In this scheme, AST places the microprocessor (plus other associated chips, including the main system RAM) on what is essentially an



expansion card. With a CUPID-32-based system, when you need more CPU power to match your growing business, all you need to do is pull out the CPU board (with, say, a 386SX processor), trade it in to AST for a new board (say, a 25-MHz 386DX), plug it in, and you're done. You now have a fully functional 25-MHz 386DX without any of the compromises or deficiencies associated with "speedup" boards in conventionally designed systems.

The CUPID-32 architecture brings down the cost of upgrading the CPU, which means that you're more likely to move up to the level of power you really need. (For example, trading in your 386SX for a 25-MHz 386DX board, as in our example, above, would cost \$3,295 [list], as compared with \$6,290 for the full 25-MHz 386 system. Trading up from a 386SX to an i486 board costs \$6,395 [list], compared with \$9,119 for the full 486 system.) And making the upgrade will always be as easy as installing a standard expansion card.

Even if you're not thinking about upgrading, the AST Premium line still offers great values: AST's pricing falls in the high-middle range, whereas the quality of its products is up at the top.

# CompuAdd®

#### CompuAdd

CompuAdd isn't quite like any other computer company. It started out selling floppy-disk drives through the mail. Later, it designed, then manufactured and sold computer systems—also by direct mail. To-day, CompuAdd is a hybrid, a mail-order business that also has 89 walk-in "superstores" in 29 states and Canada. This puts CompuAdd in an unusual position. It can cater to customers who crave an opportunity to test-drive the system and kick the tires and still enjoy the benefit of eliminating the middleman and pocketing the savings.

CompuAdd markets a complete line of

high-quality personal computer systems, ranging from a basic 12-MHz 286 to a 25-MHz i486. Although they don't offer extraordinary technical sophistication, Compu-Add systems represent good value. They are priced below many comparable systems you'll find at your local computer store. Furthermore, when you buy from Compu-Add, you get a virtual security blanket of support. In addition to on-site service (for selected models) during the one-year warranty period—a technician on your doorstep the next business day after your call—the company provides extensive technical sup-

port over the telephone (11 hours a day, Monday through Friday) for one year after purchase. The icing on the cake is a no-questions-asked, 30-day return policy.

The only bone we have to pick with CompuAdd has to do with shipping charges on mail orders: The company charges 2 percent of the order. That's fine for an inexpensive product, but a bit stiff for a computer. On a \$5,000 system, for example, the shipping charge will come to a whopping \$100. Even so, considering the advantages, we think that few people will regret a system purchase from CompuAdd.

# MAGNAVOX

#### Magnavox HeadStart

The idea of offering "free" application software with the purchase of a computer (called bundling) isn't exactly new. A number of computer manufacturers—and myriad local computer dealers—have done it over the years. However, few such packages have been as rich as the one offered with the Magnavox HeadStart line of PCs. Among the software packages included with the HeadStart series are *Publish-It!* (a desktop publishing package), *Q* & *A* 3.0 (a database with a built-in word processor), *Quattro* (a full-featured spreadsheet), and *Deluxe Paint II* (a paint program).

While software bundling, as such, may be old news, Magnavox has found a way to make it fresh. It is now bundling six CD-ROM disks with its two new CD-ROM-equipped systems. CD-ROM, you say? Yes. Two of Magnavox's new HeadStart models, the 12.5-MHz 286-based 300CD and 16-MHz 386SX-based 500CD, incorporate CD-ROM drives. CD software provided includes more reference works (dictionary, thesaurus, Bartlett's Familiar Quotations, atlas, and so on) than you can shake a stick at plus a guide to CDs, a music sampler, and a generous selection of games.

But that's not all. An internal 2400-bitper-second modem and a subscription to the Prodigy on-line information service are also included with every HeadStart system. To tie it all together, Magnavox throws in a DOS shell program, which provides easy integration of all the bundled software—as well as any packages you might add later.

The Magnavox 500CD is priced below many 386SX systems that don't have a built-in CD-ROM drive and that don't include any free application software, much less CD-ROM software. That's pretty hard to beat.

# **MHYUNDAI**

#### **Hyundai Super**

Hyundai: They make cars, don't they? Yes, and steamships, and lots of other things. But computers? Yes, Hyundai makes computers, too. Quietly, and in a remarkably short time, Hyundai has entered—and established a significant niche in—the highly competitive IBM-compatible personal-computer market in the United States. Despite an inauspicious beginning, it now holds 4 percent of that market.

How has Hyundai pulled this off? Not by offering the fastest, sexiest computer systems or the lowest cutthroat prices, but by taking a conservative and solidly mid-tech

approach. In fact, ignoring the latest and greatest seems to be a foundation of Hyundai's strategy. The high cost of brand-new microprocessors and other advanced electronics makes such systems expensive to build, and consumers typically resist unproven, top-dollar technology. Hyundai just waits until a market develops for a product and then provides that product at an appealing price. The current top of the Hyundai line is a 33-MHz 386DX, which is far from cutting-edge technology today.

Good value for money, then, is clearly one key to Hyundai's success. At typical

discount rates, Hyundai systems frequently turn out to be less expensive than equivalent products from direct-sales vendors. Another key is the confidence inspired by Hyundai's 18-month warranty and the availability of on-site service for the entire warranty period priced at a modest \$100.

If Hyundai's PC product line has a weakness, it is in the keyboards supplied. They are lightly built, with a rather mushy key touch. While this is ultimately a matter of personal preference, we hope that Hyundai will devote more attention to its keyboards in the future.

## What to Look For in a Computer System

When you're hot on the trail of a new computer system, it's easy to lose sight of important details or forget a crucial feature. This comprehensive shopper's guide will help you keep everything in perspective. Use it, along with our quiz "How Much Computing Power Do You Need?" the profiles in "Searching for the Perfect PC," and the chart "Specifications for 117 Computer Systems," to zero in on the system that's just right for you—with the confidence that you have considered everything you need to.

#### **IBM AND COMPATIBLES**

#### **MACINTOSH**

#### **MICROPROCESSOR**

There are five generations of Intel (and compatible) microprocessors currently in use in desktop IBM and IBM-compatible computers: the 8088 and 8086, 80286, 80386SX, 80386DX, and i486. Each successive generation has brought increased speed and power to personal computing. Only a 386 or 486 processor can utilize *Windows* 3.0's memory-management capabilities and tap that program's full potential. We think most business users will find the power of a 286- or 386SX-based system sufficient for non-*Windows* computing. In case you're in doubt about how much microprocessor power you need, however, our five-minute quiz will guide you.

The Apple Macintosh line uses the 68000, 68020, and 68030 microprocessors from Motorola. Only the 68020 (used in the new Mac LC) and the 68030 (used in the SE/30, IIcx, IIci, IIfx, and new IIsi) make Macintoshes fast enough for power-hungry business applications.

We feel that most businesses will find the SE/30, IIcx, or IIsi (which have identical microprocessors) sufficiently powerful for their computing needs. If you aren't sure how much processor power you need, take our five-minute quiz and find out.

#### **CLOCK SPEED**

Each class of microprocessor used in both families of computers is available in a range of clock speeds. Clock speed is like horsepower: The higher the number (measured in megahertz [MHz]—millions of ticks per second), the faster the computer runs. Clock speeds for the microprocessors mentioned here range from 4.77 MHz for the original Intel 8088 to 40 MHz for the fastest Motorola 68030. (Clock speeds of microprocessors used in IBM and Macintosh computers aren't directly comparable, by the way.) Keep in mind when considering clock speeds that a more powerful microprocessor running at the same speed as a less powerful one—a 20-MHz 386DX versus a 20-MHz 286, for example—will process data more rapidly.

#### **MEMORY AND MEMORY EXPANSION**

Most 286- and 386SX-based computers are sold with 1MB of RAM, sufficient to run most current stand-alone applications but inadequate for Windows. Some SXs and many 20- and 25-MHz 386DXs come with 2MB, which will accommodate the largest database or spreadsheet and allows fuller use of Windows. With 4MB of RAM—supplied with some high-end 25- and 33-MHZ 386DX and i486 systems—you'll be able to take full advantage of Windows or sophisticated multitasking software like Desqview/386 or VM/386. Systems up to the 20-MHz 386DX level are generally equipped with sockets on the motherboard to hold up to 4MB of RAM. More powerful systems can usually accommodate at least 8MB. In up-to-date designs, RAM is added in the form of SIMM packages, small pop-in boards that are quite easy for users to install. (Adding 1MB of RAM yourself currently costs around \$100. Memory upgrades installed by a dealer typically cost \$150 per megabyte.)

Until recently Macintosh systems were supplied with 1MB of RAM, which is adequate for many, but not all, Mac applications. The three new models—the Classic, the LC, and the IIsi—will be available with 2MB. All Macs have room for memory expansion. The SE can be expanded to a maximum of 4MB, the SE/30, the LC, and II-series models to a maximum of 8MB—except for the IIsi, which can accommodate 16MB. If you want to use MultiFinder, 4MB of RAM will give you the freedom to work with several sophisticated applications—although you can run MultiFinder (with limited options) with 1- or 2MB of RAM.

All Macintosh RAM comes in the form of SIMM packages (small cards that snap into slots on the motherboard). Owners of II-series Macs can themselves easily add SIMMs (which currently cost about \$100 per megabyte). With the SE and SE/30, adding memory is a job for an authorized dealer; the cost is about \$150 per megabyte, installation included.

#### **PORTS**

Ports aren't a big issue anymore. Just about any IBM or compatible computer you can buy today has a parallel port (for running a printer) and at least one serial port (for hooking up a modem, mouse, or track ball). These are sufficient for most users' needs, since most add-on equipment (scanner cards, fax boards, and CD-ROM controllers, for example) connect to the system through internal expansion slots. Nonetheless, many systems provide a second serial port or a dedicated mouse port—which would allow use of both a mouse and a modem without taking up an expansion slot. If adding a large number of peripherals is important to you, look for a system with more than the basic one parallel and one serial port.

Macintoshes have ports aplenty; at the back of every Mac you'll find at least six. Two of these are Apple Desktop Bus connectors (for keyboard and mouse). There is one SCSI (Small Computer System Interface) port, a high-throughput connection for an external hard-disk drive, tape drive, or CD-ROM drive. Two serial ports accommodate a printer and a modem. Finally, there is an audio-output port. Some recent Macs provide a seventh port for an external floppy-disk drive, a valuable addition for systems without hard disks. Two recent models, the LC and IIsi, have audio-input ports, so you can attach voice messages to your files using the supplied microphone.

#### **AVAILABLE EXPANSION SLOTS**

Expansion slots let us add equipment—for example, an internal modem, a bus mouse, a fax board, a scanner, or a CD-ROM controller—to our systems. In general, the more slots the better. However, many slots mean a large system unit, and the current trend is toward system units with small, space-saving footprints—and thus fewer expansion slots. At the same time, there is a counterbalancing trend toward building hard-disk controllers and video systems (which used to take up slots) into the motherboard, freeing up slots for other purposes. A typical small-footprint system leaves three slots available, which for many people is more than adequate. Users planning for a full complement of peripherals, however, should look for systems with at least five available slots.

Because they are equipped with such an extensive array of external connections for peripheral devices (see PORTS, above), Macintoshes don't need internal expansion slots nearly so much as IBM and compatible systems do. Consequently, expansion slots in Macs tend to remain unused. The Mac SE, SE/30, LC, and IIsi have one expansion slot each. Installing a device in a compact Mac is a job for an authorized technician. The Mac IIcx has two available slots, the IIci three, and the IIfx five. Installing a card in a modular Mac is no harder than in a typical IBM-type system—in other words, easy.

#### **FLOPPY-DISK DRIVES**

When only one floppy-disk drive is supplied with a 286-, 386-, or 486-based system, it is typically a 5.25-inch, 1.2MB drive. Some manufacturers are switching to the 3.5-inch, 1.44MB drive instead. A few offer a choice to buyers, and some supply both types of drives as standard—which we applaud. Yes, we feel strongly that computers used in business should be equipped with both types of floppy-disk drives. The \$100 to \$125 extra that you might have to spend for a second floppy drive will buy you peace of mind. You'll never face the awful dilemma of what to do when the software package you just bought or the data you need to share with an associate or consultant is on the wrong type of disk.

These days, all Macs are equipped with a single internal 3.5-inch, 1.4MB floppy drive that can read MS-DOS, OS/2, and Apple II (ProDOS) 3.5-inch disks in addition to Mac disks. The drive can also read, write, and format the 800K disks used on the Mac Plus and earlier models of the SE and the Mac II.

Recent IIcx, IIsi, and IIci units are equipped with an extra connection for an external floppy-disk drive, which is great for those who (for whatever reason) don't have a hard-disk drive.

#### HARD-DISK DRIVES

Don't even consider buying a system without a hard disk; it doesn't make sense today. Most up-to-date application software simply won't run off floppy disks, and packages that can will be severely crippled. In fact, just about all systems today come with hard-disk drives. The 40MB-capacity drive is firmly established as the standard for most 286, 386SX, and lowend 386DX systems. Only bargain-basement systems come with drives of lower capacity. Midrange 386 systems have 60- or 80MB drives, and highend 386DXs and 486s are typically equipped with drives of 120MB, 150MB, or higher capacity.

Standard business applications (full-featured word processors and spreadsheets, for example) are likely to occupy 3- to 5MB of disk space. Some applications (such as the database *Oracle*) take up as much as 10- or 12MB. If you have several such programs, or if your work is graphics-intensive, think in terms of 80MB or more of disk space. It's wise to buy plenty of extra storage capacity—and remember, the larger the disk, the less you pay per byte.

Macintosh SE models that come with hard-disk drives come with 20MB drives. The LC comes with a 40MB drive. The IIsi sports a 40MB drive as standard with an 80MB drive available as an option. While the basic Classic lacks a hard drive, the model is available in an optional configuration that includes a 40MB drive and 2MB of RAM. We find most of these configurations woefully inadequate, since Mac applications and data files tend to be bigger than their IBM equivalents. A drive of 80MB or more is a point of departure for anyone running a variety of sophisticated applications. For those doing extensive desktop publishing or other graphics-intensive work, a 120MB or larger drive is a good choice.

The Mac IIci and IIfx have space for an internal hard drive, but no drive is supplied. It is up to the buyer to decide on the appropriate speed and storage capacity.

Hard drives for the compact Macs are usually external types, sitting under the system unit or attached to the back. Many compact-Mac owners buy their external drives from third-party manufacturers; they're considerably cheaper.

#### **DISPLAY SYSTEM**

The display system to buy is VGA. In fact, most IBM-type systems today come equipped with VGA video (either built into the motherboard or on an expansion card) and either a monochrome or a color VGA monitor. (EGA—the previous color-display standard—has pretty much disappeared from the market.) Today, users have a new alternative to consider: "super VGA," which offers higher resolution and/or more colors and is being offered as standard equipment on many mid- to top-level systems. (See the miniguide "Moving Up to VGA—and Beyond.") The increased resolution of super VGA offers a big advantage with graphics programs and graphical interfaces like Windows 3.0: It allows more information to be displayed on the screen.

The famous built-in, nine-inch monochrome monitor is a characteristic feature of the compact Macs (the Plus, SE, and SE/30). In recent models it can be supplemented by a larger external monitor.

One of the big advances offered by the Macintosh II, the SE/30, and later modular Macs was color-display capability. Color is vital to artoriented applications and the Mac is the artist's computer par excellence. The LC, IIsi, and IIci come with video adapters that will run both color and monochrome monitors. With the IIcx and IIfx, the user selects—and pays for—the desired card and monitor. Color Mac systems can display anywhere from 16 to 16.7 million colors, depending on the video card chosen.

#### SOFTWARE

Most IBM and compatible systems include operating-system software (DOS), although there are exceptions. Most suppliers provide DOS 3.3, but some offer version 4.01, either standard or at extra cost. Version 4.01 includes a "shell" that makes many DOS functions easier to use, but we don't consider 4.01 a must-have item. Most manufacturers provide system-setup software, typically in ROM for ease of use. Some also provide diagnostics and other utilities, like memory managers and RAM-disk drivers—a nice bonus.

All Macintoshes come with the basic Mac operating-system software, System 6.0.6, and MultiFinder, a multitasking environment that lets you open and run several applications at once. Every Mac comes with a copy of *HyperCard*, Apple's hypertext software, which lets users create their own applications. The recently released version 2.0 of *HyperCard* will run on all Macs.

#### **MATH COPROCESSOR**

Virtually every 286- or 386-based desktop system sold today has a socket for a math coprocessor, a chip that speeds up numeric calculations. (The 486 chip has the coprocessor built in.) For each standard microprocessor there is a matching math coprocessor. The 80286 chip, for example, takes an 80287 coprocessor. A math coprocessor (\$100 to \$600) can speed up the operation of numbers-intensive applications 2 to 10 times.

On the Mac SE/30 and the II-series models, a Motorola 68882 coprocessor is included as part of the system. It greatly improves performance and speeds up graphics and the rewriting of the screen. The older Macs have no coprocessor socket; the only way to add a math coprocessor to one of these computers is via an expansion card. This would be a particularly worthwhile upgrade for users doing intensive spreadsheet work, since the Mac is notoriously slow with spreadsheets.

#### **WARRANTY AND SUPPORT**

Even though, statistically, you'll probably never use it, a good warranty, like an insurance policy, offers peace of mind. The industry standard warranty is one year, parts and labor, although some manufacturers, especially new ones looking for a marketing edge, now offer 18- or 24-month warranties. One manufacturer has upped the ante to three years. Also, increasing numbers of computer manufacturers are providing free on-site service during the warranty period—or offering it as an option at a moderate price.

# **Specifications for 117 Computer Systems**

This chart lists 117 computer systems, products of reputable manufacturers. We have reviewed, or are in the process of reviewing, at least one model from each and have found them worthy of consideration.

Each system listed includes a hard-disk drive, a display, and operating system software. For IBM compatibles, the quoted price includes a color VGA monitor. We have tried to adhere to a standard configuration for each class of system, but since vendors offer different options in memory size, hard-disk drive, and other features, it hasn't always been possible. Entries within each section of the chart are arranged in ascending order of price. But

since retail prices are usually discounted (sometimes as much as 35 percent) and direct-sales prices are not, we have presented those subcategories separately. (Macintoshes are available only at retail.) Direct-sales prices quoted here include all necessary shipping charges.

Before delving into the chart, you might want to read the other sections of this buyer's guide to determine which class of system will meet your computing needs and to gain some familiarity with what to look for when shopping for a system. Then you may want to read the explanations below to help guide you through the necessarily compressed notation on the chart.

#### **IBM PC AND COMPATIBLES**

Standard memory is the amount of RAM included in the quoted price. System memory is the maximum amount of RAM that can be added to the motherboard.

Hard-disk access speed and interface type are important factors in a high-performance system. If they're too slow, the hard drive can become a system bottleneck. The lower the access-speed number, the faster the drive. The five types of hard-drive interfaces currently in use are, in ascending order of data-transfer speed and cost, RLL, MFM, IDE, ESDI, and SCSI. As you will see, IDE drives are popular; they offer a good price-performance balance.

In the Ports column you will find the following abbreviations: M (mouse);

P (parallel); MD (modem); S (serial); VGA (monitor connection). Expansion slots are ISA (standard AT-type) unless otherwise noted (as EISA or MCA). Wait states are performance indicators. The lower the number, the faster the computer. RAM cache is a feature used to boost computing speed in high-performance systems by as much as 25 percent. A larger cache is more efficient than a smaller one, but beyond 32K the law of diminishing returns applies.

We list three footprint categories: Compact system units are desktop models 15 to 17 inches wide; Full are 18- to 21-inch desktop units; Tower configurations stand vertically.

Company/Model	List Price	Standard/ System Memory	Floppy- Disk Drives	Hard-Dis		e Speed	Ports	Available Expansion Slots	RAM Cache	Wait States (Cycles)	Warranty (Months)	Foot- print
12-MHz 286-Based, Retail												
Sun Moon Star 286-12	\$2,295	1MB/4MB	5.25	40MB	IDE	18 ms	P, 2 S, VGA	3	n/a	0	36	Compact
Mitac M1212	\$2,355	1MB/4MB	Both	40MB	IDE	28 ms	M, P, S, VGA	1	n/a	0	12	Compact
Hyundai Super-286N	\$2,390	1MB/4MB	5.25	40MB	IDE	25 ms	P, S, VGA	5	n/a	0	18	Compact
Magnavox HeadStart 300	\$2,498	1MB/1MB	Both	40MB	IDE	28 ms	M, P, S, VGA, MD	4	n/a	0	12	Compact
Packard Bell Force I	\$2,658	1MB/4MB	Both	40MB	IDE	28 ms	M, P, 2 S, VGA	3	n/a	0	12/12	Compact
Panasonic FX-1800CSYSHD	\$2,748	1MB/4MB	3.5	40MB	IDE	25 ms	M, P, S, VGA	3	n/a	0	12	Compact
Arche Triumph 286 Plus	\$2,875	1MB/4MB	5.25	40 MB	IDE	28 ms	P, 2 S, VGA	3	n/a	0	24	Compact
Sun Moon Star 286-12/CD <sup>2</sup>	\$2,995	1MB/4MB	5.25	40MB	IDE	18 ms	P, 2 S, VGA	2	n/a	8	36	Compact
Magnavox HeadStart 300 CD <sup>2</sup>	\$2,998	1MB/1MB	3.5	40MB	IDE	28 ms	M, P, S, VGA, MD	3	n/a	0	12	Compact
Arche Rival 286 Plus	\$3,025	1MB/4MB	5.25	40 MB	IDE	28 ms	P, 2 S, VGA	6	n/a	0	24	Compact
Olivetti PCS286	\$3,044	1MB/4MB	3.5	40MB	IDE	29 ms	M, P, S, VGA	3	n/a	1	12/12	Compact
IBM Model 25 286 (036)	\$3,115	1MB/4MB	3.5	30MB	MFM	27 ms	M, P, S, VGA	2 MCA	n/a	1	12	Compact
Everex Step 286/12	\$3,161	1MB/4MB	5.25	40MB	MFM	28 ms	P, S, VGA	6	n/a	0	12	Compact
NEC PowerMate 286 Plus	\$3,298	1MB/4MB	5.25	42MB	MFM	28 ms	M, P, S, VGA	4	n/a	0	12	Compact
Zenith Z-286 LP/12 Plus 1	\$3,398	1MB/8MB	3.5	40MB	IDE	28 ms	P, 2 S, VGA	3	n/a	0	12	Compact
Compaq Deskpro 286N Model 40	\$3,218	1MB/13MB	3.5	40MB	IDE	28 ms	M, P, S, VGA	2	n/a	1	12	Compact
Mitsubishi MP286-342	\$3,495	640K/640K	5.25	40MB	MFM	28 ms	P, S, VGA	4	n/a	1	12	Compact
Epson Equity IIe	\$3,697	1MB/5MB	5.25	40MB	IDE	29 ms	M, P, S, VGA	4	n/a	0	12	Compact
12-MHz 286-Based, Direct Sales												12576
Swan 286/12	\$1,699	512K/5MB	5.25	42MB	IDE	28 ms	P, 2 S, VGA	6	n/a	0	12/12	Full
CompuAdd 212	\$1,780	512K/4MB	5.25	40MB	IDE	28 ms	P, 2 S, VGA	3	n/a	0	12/12	Compact
Micro Express 286-12SL	\$1,934	1MB/1MB	5.25	40MB	IDE	28 ms	P, S, VGA	4	n/a	0	15	Compact
Dell System 210	\$2,019	1MB/6MB	5.25	40MB	IDE	28 ms	P, 2 S, VGA	3	n/a	0	12/12	Compact
16-MHz 386SX-based, Retail												
Laser 386SX/F	\$2,599	1MB/2MB	Both	40MB	IDE	28 ms	P, 2 S, VGA	5	n/a	0	12/6	Compact
Hyundai Super-386S	\$2,690	1MB/8MB	5.25	40MB	IDE	25 ms	P, S, VGA	5	n/a	0	18	Compact
Sun Moon Star System 386SX	\$2,995	1MB/8MB	5.25	40MB	IDE	18 ms	P, 2 S, VGA	5	n/a	0	36	Compact
Magnavox HeadStart 500	\$2,998	1MB/8MB	Both	80MB	IDE	18 ms	P, 2 S, VGA, MD	3	n/a	0	12	Compact
Mitac MPC2386	\$3,095	1MB/8MB	Both	40MB	IDE	28 ms	P, 2S, VGA	5	n/a	0	12	Compact
Panasonic FX-1925SCSYSHD	\$3,148	1MB/4MB	3.5	40MB	IDE	25 ms	M, P, S, VGA	3	n/a	0	12	Compact
Packard Bell Force 386X	\$3,158	1MB/8MB	Both	40MB	IDE	28 ms	M, P, 2 S, VGA	3	n/a	0	12/12	Compact
Tandy 4016 SX	\$3,227	1MB/4MB	3.5	52MB	IDE	16 ms	M, P, S, VGA	3	n/a	0	12	Compact
Arche Rival 386-SX	\$3,275	1MB/8MB	5.25	40MB	IDE	28 ms	P, 2 S, VGA	6	n/a	0	24	Compact
Olivetti PCS386SX	\$3,490	1MB/8MB	3.5	40 MB	IDE	25 ms	M, P, S, VGA	3	n/a	0	12/12	Compact
Magnavox HeadStart 500 CD <sup>2</sup>	\$3,498	2MB/8MB	3.5	80MB	IDE	18 ms	P, 2 S, VGA, MD	2	n/a	0	12	Compact
AST Bravo/386SX Model 45V	\$3,540	2MB/4MB	5.25	40MB	IDE	28 ms	P, S, VGA	3	16K	0	12	Compact

	List	Standard/ System	Floppy- Disk	Hard-Dis	sk Dr <u>ive</u>			Available Expansion	RAM	Wait States	Warranty	Foot
Company/Model	Price	Memory	Drives	Capacity	Туре	Speed	Ports	Slots	Cache		(Months)	print
Epson Equity 386SX Plus	\$3,598	2MB/2MB	5.25	40MB	IDE	25 ms	M, P, S, VGA	4	n/a	0	12	Compact
AST Premium 386SX/16 Model 45V	\$3,890	1MB/4MB	5.25	40MB	IDE	28 ms	P, 2 S, VGA	5	16K	0	12	Full
Everex Step 386is	\$3,911	2MB/4MB	5.25	40MB	MFM	28 ms	P, S, VGA	6	n/a	0	12	Compact
NEC PowerMate SX Plus	\$3,998	2MB/2MB	5.25	42MB	MFM	28 ms	M, P, S, VGA	3	n/a	1	12	Compact
Mitsubishi MP386s-640	\$4,295	2MB/8MB	5.25	40MB	MFM	28 ms	P, 2 S, VGA	4	n/a	0	12	Compact
Zenith Z-386SX Model 40	\$4,398	2MB/8MB	3.5	40MB	IDE	28 ms	P, 2 S, VGA	4	n/a	0	12	Compact
Compaq Deskpro 386s Model 40	\$4,018	2MB/13MB	3.5	40MB	IDE	28 ms	M, P, S, VGA	4	n/a	1	12	Compact
IBM PS/2 Model 55SX-061	\$4,638	2MB/4MB	3.5	60MB	MFM	27 ms	M, P, S, VGA	3 MCA	n/a	2	12	Compact
16-MHz 386SX-Based, Direct Sale	s		And W.					10.4				
Swan 386SX	\$1,895	1MB/8MB	5.25	42MB	IDE	19 ms	P, 2 S, VGA	6	n/a	0	12/12	Full
CompuAdd 316s	\$2,029	1MB/4MB	5.25	40MB	IDE	28 ms	P, 2 S, VGA	3	n/a	0	12/12	Compact
Micro Express 386-SX	\$2,059	1MB/8MB	5.25	40MB	IDE	23 ms	P, S, VGA	6	n/a	0	15	Compact
Northgate 386SX	\$2,195	2MB/4MB	5.25	40MB	IDE	28 ms	M, P, 2 S, VGA	4	n/a	1	12/12	Compact
Dell System 316SX	\$2,219	1MB/8MB	5.25	40MB	IDE	28 ms	P, 2 S, VGA	3	n/a	0	12/12	Compact
Zeos 386SX-16	\$2,349	2MB/4MB	Both	40MB	IDE	25 ms	P, 2 S, VGA	NA	n/a	0	12/12	Full
THE REAL PROPERTY AND ADDRESS OF THE PARTY O	42,512									The Control		
20-MHz 386SX-Based, Retail Mitac MPC2386E	\$3,695	1MB/8MB	Both	40MB	IDE	28 ms	P. 2S, VGA	5	n/a	0	12	Compact
	\$3,827	1MB/8MB	3.5	52MB	IDE	28 ms	M. P. S. VGA	3	n/a n/a	0	12	TO 3 15 15 15 15 15 15 15 15 15 15 15 15 15
Tandy 4020 SX	\$4,398		5.25	42MB	MFM	28 ms		3	n/a	0	12	Compact
NEC PowerMate SX/20 Compag Dockpro 386s/20 Model 60	THE RESERVE TO THE PARTY OF THE	2MB/2MB	Name and Address of the Owner, where	60MB	IDE	28 ms	M, P, S, VGA M, P, S, VGA	4	n/a 4K	0	12	Compact
Compaq Deskpro 386s/20 Model 60	\$4,518	2MB/16MB	3.5	OUNB	IDE	19 1118	M, F, S, VGA	4	41	U	12	Compact
20-MHz 386SX-Based, Direct Sale		1) (5)	5.55	402.5	TE S	200	DAG MG				10/10	C
CompuAdd 320s	\$2,233	1MB/4MB	5.25	40MB	IDE	28 ms	P, 2 S, VGA	3	n/a	0	12/12	Compact
Zeos 386SX-20	\$2,649	2MB/4MB	Both	40MB	IDE	25 ms	P, 2 S, VGA	NA	n/a	0	12/12	Full
Dell System 320LX	\$3,119	1MB/8MB	5.25	80MB	IDE	25 ms	P, 2 S, VGA	6	n/a	0	12/12	Full
20-MHz 386DX-Based, Retail				(E-10)-4	11/11							
Laser 386/2D1 1	\$4,195	1MB/8MB	Both	120MB	IDE	24 ms	P, 2 S, VGA	5	64K	0	12/6	Full
Hyundai Super-386c	\$4,340	1MB/8MB	5.25	100MB	IDE	25 ms	P, S, VGA	5	n/a	0	18	Compact
Everex Step 386/20	\$5,461	1MB/8MB	5.25	80MB	MFM	28 ms	P, S, VGA	6	64K	0	12	Full
Epson Equity 386/20	\$5,898	2MB/16MB	5.25	90MB	ESDI	25 ms	M, P, S, VGA	7	n/a	1	12	Full
Tandy 5000 MC	\$6,127	2MB/8MB	3.5	80MB	SCSI	19 ms	M, P, S, VGA	5 MCA	n/a	0	12	Compact
Zenith Z-386/20 Model 70	\$6,398	2MB/20MB	5.25	70MB	ESDI	18 ms	P, 2 S, VGA	5	n/a	0	12	Full
IBM PS/2 Model 70-121	\$6,538	2MB/6MB	3.5	120MB	NA	23 ms	M, P, S, VGA	3 MCA	n/a	0	12	Compact
AST Premium/386C Model 3110V	\$7,390	2MB/16MB	5.25	110MB	IDE	24 ms	P, 2 S, VGA	4	64K	0	12	Full
Compaq Deskpro 386/20e Model 110	\$6,418	4MB/16MB	3.5	110MB	IDE	24 ms	M, P, S, VGA	4	32K	0	12	Compact
20-MHz 386DX-Based, Direct Sale	S											
CompuAdd 320	\$2,916	1MB/16MB	5.25	80MB	IDE	19 ms	P, 2 S, VGA	5	32K	0	12/12	Full
Northgate SlimLine 320	\$2,999	1MB/8MB	Both	40MB	IDE	23 ms	P, 2 S, VGA	5	n/a	1	12/12	Compact
Micro Express 386-20	\$3,334	4MB/8MB	5.25	100MB	IDE	20 ms	P, S, VGA	5	64K	0	15	Full
Northgate Elegance 386/20	\$4,749	4MB/8MB	Both	200MB	IDE	30 ms	P, 2 S, VGA	6	64K	0	12/12	Tower
25-MHz 386DX-Based, Retail						200		The Ray				
Arche Legacy 386-25	\$5,645	2MB/8MB	5.25	80MB	MFM	28 ms	P, 2 S, VGA	6	32K	0	24	Compact
Hyundai Super-386N	\$5,740	2MB/16MB	5.25	100MB	IDE	25 ms	M, P, S, VGA	6	32K	0	18	Full
AST Premium 386/25 Model 115V	\$6,290	2MB/4MB	5.25	110MB	IDE	24 ms	P, 2 S, VGA	5	32K	0	12	Full
NEC PowerMate 386/25S	\$6,348	2MB/8MB	5.25	100MB	ESDI	23 ms	M, P, S, VGA	4	32K	0	12	Compact
Tandy 4025 LX	\$6,527	2MB/8MB	3.5	105MB	IDE	16 ms	M, P, S, VGA	5	32K	0	12	Compact
Epson Equity 386/25	\$6,798	2MB/16MB	5.25	100MB	IDE	25 ms	M, P, S, VGA	6	32K	0	12	Full
Everex Step 386/25	\$7,211	4MB/8MB	5.25	90MB	ESDI	18 ms	P, S, VGA	6	64K	0	12	Full
NEC PowerMate 386/25	\$7,393	2MB/8MB	5.25	100MB	ESDI	23 ms	P, 2 S, VGA	5	32K	0	12	Full
Zenith Z-386/25 Model 150	\$8,998	4MB/20MB	5.25	150MB	ESDI	18 ms	P, 2 S, VGA	5	n/a	0	12	Full
IBM PS/2 Model 70-A61	\$9,138	2MB/6MB	3.5	60MB	MFM	NA	M, P, S, VGA	5 MCA	64K	0	12	Compact
Compaq Deskpro 386/25e Model 120	\$7,818	4MB/16MB	3.5	120MB	IDE	18 ms	M, P, S, VGA	6	32K	0	12	Compact
25-MHz 386DX-Based, Direct Sale	N. P. J. A.	THE WAR		X 74/200		A RESIDE	A THIRD WAT		g Table		No. of the	DE TALL
Micro Express 386-25	\$3,734	4MB/8MB	5.25	100MB	IDE	20 ms	P, S, VGA	5	64K	0	15	Full
CompuAdd 325	\$3,895	4MB/16MB	5.25	110MB	IDE	19 ms	P, 2 S, VGA	5	32K	0	12/12	Full
Dell System 325D	\$4,019	4MB/16MB	5.25	100MB	IDE	25 ms	M, P, 2 S, VGA	6	32K	0	12/12	Compact
Zeos 386-25	\$4,359	4MB/8MB	Both	200MB	IDE	19 ms	P, 2 S, VGA	6	64K	0	12/12	Full
Swan 386/25	\$4,499	4MB/16MB	5.25	180MB	SCSI	18 ms	P, 2 S, VGA	6	32K	0	12/12	Full
	\$4,799	4MB/8MB	Both	200MB	IDE	30 ms	P, 2 S, VGA	6	64K	0	12/12	Tower
Northgate Elegance 386/25			TA CALL	POULTIE	TI-TI	20 1110	-, - 0, 10/1		VIAL			101101

	List	Standard/ System	Floppy- Disk	Hard-Di	sk Drive			Available Expansion	RAM	Wait States	Warranty	Foot-
Company/Model	Price	Memory	Drives	Capacity	Туре	Speed	Ports	Slots	Cache		(Months)	print
33-MHz 386DX-Based, Retail				40 yr 50 22		A Marie	Sef National Con-		PART OF		mile age	
Mitac MPC4000G	\$5,965	4MB/8MB	Both	100MB	IDE	23 ms	P, 2 S, VGA	6	128K	0	12	Compac
Hyundai Super-386T	\$6,840	4MB/16MB	5.25	100MB	IDE	25 ms	M, P, 2 S, VGA	5	64K	0	18	Compac
Packard Bell Force 386/33	\$6,947	4MB/8MB	Both	124MB	IDE	20 ms	P, 2 S, VGA	5	64K	1	12/12	Full
AST Premium 386/33 Model 115V	\$7,290	2MB/4MB	5.25	110MB	IDE	24 ms	P, 2 S, VGA	5	32K	0	12	Full
Tandy 4033 LX	\$7,527	2MB/8MB	3.5	105MB	IDE	16 ms	M, P, S, VGA	5	32K	0	12	Compa
Everex Step 386/33	\$8,736	4MB/8MB	5.25	160MB	ESDI	16 ms	P, S, VGA	5	128K	0	12	Full
NEC PowerMate 386/33E	\$10,293	4MB/8MB	5.25	100MB	ESDI	23 ms	M, P, 2 S, VGA	6 EISA	64K	0	12	Full
Zenith Z-386/33 Model 150	\$10,298	4MB/20MB	5.25	150MB	ESDI	18 ms	P, 2 S, VGA	5	n/a	0	12	Full
Compaq Deskpro 386/33 Model 84	\$10,818	4MB/16MB	3.5	84MB	IDE	24 ms	M, P, S, VGA	6	64K	0	12	Full
33-MHz 386DX-Based, Direct Sal	es		364			TEN	post of Page	CHAR.	12/15/2		Transie	Y. 15/15
Dell System 333D	\$4,819	4MB/16MB	5.25	190MB	IDE	15 ms	M, P, 2 S, VGA	6	64K	0	12/12	Compa
Zeos 386-33	\$4,869	4MB/8MB	Both	200MB	IDE	19 ms	P, 2 S, VGA	6	128K	0	12/12	Tower
Swan 386/33	\$5,099	4MB/16MB	5.25	180MB	SCSI	18 ms	P, 2 S, VGA	6	32K	0	12/12	Tower
Northgate Elegance 386/33	\$5,499	4MB/8MB	Both	200MB	IDE	30 ms	P, 2 S, VGA	6	64K	0	12/12	Tower
CompuAdd 333FP	\$5,911	4MB/16MB	5.25	150MB	ESDI	18 ms	P, 2 S, VGA	5	64K	0	12/12	Full
25-MHz 486-Based, Retail		The second		HARLE L						VI OBSERV	N SWAL S	HEALT !
AST Premium 486/25 Model 115	\$9,119	4MB/16MB	5.25	110MB	IDE	24 ms	P, 2 S, VGA	5	n/a	0	12	Full
Everex Step 486is	\$11,536	4MB/8MB	5.25	160MB	ESDI	16 ms	P, S, VGA	6	64K	0	12	Full
Compaq Deskpro 486/25 Model 120	\$13,318	4MB/100MB	3.5	120MB	IDE	18 ms	M, P, S, VGA	7 EISA	128K	0	12	Full
25-MHz 486-Based, Direct Sales								中央大				
CompuAdd 425	\$5,707	4MB/8MB	5.25	110MB	IDE	19 ms	P, 2 S, VGA	5	n/a	0	12/12	Compa
Micro Express 486-25	\$5,834	4MB/8MB	5.25	155MB	ESDI	18 ms	P, S, VGA	6	128K	0	24	Full
Northgate Elegance 486 25i	\$6,595	4MB/8MB	Both	200MB	IDE	30 ms	P, 2 S, VGA	6	64K	0	12/12	Tower
Dell System 425E	\$6,719	4MB/16MB	5.25	190MB	IDE	15 ms	P, 2 S, VGA	6 EISA	n/a	0	12/12	Full
Zeos 486-25 EISA	\$7,869	4MB/8MB	Both	200MB	IDE	19 ms	P, 2 S, VGA	7 EISA	128K	0	12/12	Full
33MHz 486-Based, Retail		August 1985						15 4 15 51				With the
AST Premium 486/33 Model 115	\$10,619	4MB/16MB	5.25	110MB	IDE	24 ms	P, 2 S, VGA	5	n/a	0	12	Full
Everex Step 486/33	\$12,536	4MB/8MB	5.25	160MB	ESDI	16 ms	P, S, VGA	5	128K	0	12	Full
33MHz 486-Based, Direct Sales				8 2 3 3 7						THE PARTY		
Dell System 433E	\$8,719	4MB/16MB	5.25	190MB	IDE	15 ms	P, 2 S, VGA	6 EISA	n/a	0	12/12	Full

#### **MACINTOSH**

All the Macintosh systems listed include one 3.5-inch, 1.4MB floppy-disk drive, one SCSI (Small Computer System Interface) connection, two serial ports, one sound port, one external floppy-disk drive, and the standard keyboard (\$129). Software includes the operating system (System 6.0.6), *MultiFinder, HyperCard*, and other utilities.

All Macintosh hard drives use SCSI, therefore all are fast. Since the buyer has no choice, we don't list actual access speeds.

There are two Macintosh system-unit configurations: Compact Macs have a 9.5-inch-square footprint and a built-in screen; Modular Macs have a footprint of about 12 by 14 inches and separate, freestanding monitors.

Company/Model	List Price	Standard/ System Memory	Floppy- Disk Drives	Hard-Disk Drive (Capacity & Type)	Available Expansion Slots	Apple Desktop Bus Ports	RAM Cache	Warranty (Months)	Footprint
7.83-MHz 68000-Based		monior,	511103	(outputty a Type)	01013	Bus I ons	Oddile	(Months)	rootpinit
Apple Mac Classic 2/40	\$1,499	2MB/4MB	3.5	40MB SCSI	None	1	n/a	12	Compact
Apple Mac SE	\$3,498	2MB/4MB	3.5	40MB SCSI	1 (unique)	2	n/a	12	Compact
16-MHz 68030-Based		E Walter							
Apple Mac LC	\$3,400	2MB/10MB	3.5	40MB SCSI	1 (unique)	1	n/a	12	Compact
Apple Mac SE/30	\$5,698	4MB/8MB	3.5	80MB SCSI	1 (unique)	2	n/a	12	Compact
Apple Mac IIcx	\$8,345	4MB/8MB	3.5	80MB SCSI	2 NuBus	2	n/a	12	Modular
20-MHz 68030-Based		A VOLLONIA				au like na	an a trade	CHECKING.	
Apple Mac IIsi	\$5,729	5MB/17MB	3.5	80MB SCSI	1 NuBus	1	n/a	12	Modular
25-MHz 68030-Based			A STATE OF		All Annie	AL ALANA	Marine B	THE TAX	
Apple Mac IIci	\$9,297	4MB/8MB	3.5	80MB SCSI	3 NuBus	2	32K	12	Modular
40-MHz 68030-Based				Tarket Market	New Art		1000	SO TO VALVE	ala was
Apple Mac IIfx	\$12,745	4MB/8MB	3.5	160MB SCSI	5 NuBus	2	32K	12	Modular

Key: 1. Includes a mouse; 2. Includes a CD-ROM drive and CD-ROM software; n/a = not applicable; N/A = not available at press time.

#### MANUFACTURERS

Apple: (408) 996-1010; Arche: (415) 623-8100; AST: (717) 727-4141; Compaq: (713) 370-0670; CompuAdd: (512) 250-1489; Dell: (512) 338-4400; Epson: (213) 539-9140; Everex: (415) 498-1111; Hyundai: (408) 473-9200; IBM: (800) IBM-2468; Laser: (708) 540-8086; Magnavox: (615) 521-4316; Micro Express: (714) 852-1400; Mitae: (408) 432-1160; Mitsubishi: (213) 217-5732; NEC: (708) 860-9500; Northgate: (612) 476-4400; Olivetti: (201) 526-8200; Packard Bell: (818) 773-4400; Panasonic: (201) 348-7000; Sun Moon Star: (800) 545-4SUN; Swan: (800) 468-9044; Tandy: (817) 390-3011; Zenith: (708) 699-4800; Zeos: ((612) 633-4591



It Makes Little Economic Sense to Stop Work, Get into My Car, and Drive to the Office-Supply Store

# At-Home Shopping



discovered when I set up a home office that I cut myself off from casual lunchhour shopping. From a midtown office it was no big deal to stop by the stationery store for supplies. But in my present working situation, it makes little economic

COREY SANDLER is president of Word Association, a Holliston, Massachusetts, publishing and editorial services company. Current books include the best-selling Ultimate Unauthorized Nintendo Game Strategies series (Bantam Books), with more than 500,000 copies already in print, Inside Allways (John Wiley & Sons), Inside Draw Perfect (Bantam Books). and Desktop Publishing with Microsoft Word (Dow Jones-Irwin).

sense to stop my work, get into my car, and drive 10 miles to the office-supply store for a box of staples. Here in my rural Massachusetts home office, I let my fingers do the walking when it comes to shopping for nearly everything I need to earn my living.

I buy office supplies from companies like Quill or NEBS. I order computer supplies from CompuAdd, Computer Direct, Inmac, and Misco. I arrange for delivery of electronic hardware from Black Box or Jameco. I can order books from Lotus Selects or Waldenbooks. I can choose furniture and filing cabinets from Sears or Staples. I have become a regular stop on the routes of the neighborhood Federal Express, UPS, Airborne Express, and U.S. Postal Service drivers. And nearly every day I get at least one direct-mail catalog in the mail.

I don't limit myself to catalog companies, either. Although many retail stores are not used to selling over the phone, nearly all will find a way to accommodate you. In fact, I'm having a hard time remembering the last major purchase for the office that required a trip to the store.

#### **COMPARISON SHOPPING**

All things are not equal in the buying game. Just ask someone who has paid \$1,000 for a last-minute airline ticket and ended up sitting next to a guy with a \$99 special fare.

My first three rules are: research, re-

search, and research. I read more than a dozen different magazines, two daily newspapers, and all the various catalogs and fliers in the mail. It's my goal to know more than the salesperson about a product when I place an order. Unfortunately, that's not too difficult.

On major purchases such as computers, peripherals, video equipment, telephones, facsimile machines, cellular phones, and answering machines, I place calls to the customer-support or technical-service departments of manufacturers. I have generally found the level of assistance to be quite high when I explain that I am considering purchasing one of their products.

Those few companies that have been uncooperative have not won my business; if they won't help me before I become a customer, why should I expect them to stand behind me after I've made a purchase?

Once I decide what to buy, I move on to the quest for the best deal. Sometimes the best deal is the lowest price, but sometimes other factors are more important. This is a lesson I have had to learn many times.

#### A SHOPPER'S ROLODEX

I've ordered by phone and gotten deliveries from the following outfits, and I have been satisfied with all of them.

**Businessland:** computer systems and peripherals, (800) 551-2468:

**CompuAdd:** computer systems and peripherals, (800) 627-1967;

**Computer Direct:** computer systems and peripherals, (800) 289-9473;

Hello Direct: telephone, facsimile, and telecommunications devices, (800) 444-3556; Inmac: computer peripherals and supplies, (800) 547-5444;

**MEI/Micro Center:** computer supplies, (800) 634-3478:

**Misco:** computer supplies, (800) 876-4726; **NEBS:** business forms and stationery, (800) 225-6380:

**Quill:** computer systems and supplies, (708) 634-4800 or (714) 988-3200;

Sears, Roebuck & Co. Office Catalog: supplies and furniture, (800) 366-3000;

**Swan Technologies:** computer systems and peripherals, (800) 468-9044.

For example, a while back I was in the market for a super-sophisticated two-line answering machine. I did all of the research and decided on a model and was set to purchase it by telephone from a reputable mail-order house for about \$150. But between my decision and placing the order, I had to go to New York City on a business trip and I made a detour into a midtown electronics store. There I found the same model for \$125, cash only.

I congratulated myself all the way back

home, where I found that (1) the machine did not work and (2) the sales receipt for the cash sale was marked "Nonreturnable Merchandise." To make a long, tedious story short, this answering machine probably ended up costing me hundreds of dollars—the price of two round-trips to a repair center.

I have come to look at reasonably higher

### If I pay by credit card, the funds do not actually leave my control until I pay my credit card bill.

prices from first-quality stores as a form of product insurance, protection in case of failure or dissatisfaction.

#### **CREDIT CARD SHOPPING**

I've also learned how to pay for goods. It all comes down to control. If I give someone cash or a postal money order, the money is immediately theirs; sending someone a check is essentially the same. In either case, if the merchandise does not arrive or does not perform as claimed, it's up to me to recover the money. If the cash is lost, it's my loss and no one else's. Paying with cash also does not help me establish business records for tax purposes and angers my accountant, which is something I try to avoid.

But if I pay by credit card, the funds do not actually leave my control until I pay my credit card bill. And, there are a number of instances in which I could enlist the aid of my credit card company in protesting a bill for a product not received or that does not work properly. The Fair Credit Reporting Act and other federal laws give me specific privileges on purchases of more than \$50 made by credit card in my home state or within 100 miles of home. In fact, most major credit card companies ignore that restriction and will work with you on any dispute you may have with a seller.

I can withhold payment on items purchased with a credit card if I've made a good-faith effort to return them or have given the seller a reasonable opportunity to correct the problem. I also use credit cards that offer special extended warranty and insurance programs for major purchases.

Another rule I've established works for me because I still have a lot of storage space in my basement office: Buy in bulk. I buy six months' worth of paper, ribbons, and laser toner at a time. The national Staples chain, various "buyer's club" stores, catalog companies, and even neighborhood office-supply stores all offer substantial discounts for quantity purchases. I take care to keep printing paper dry and store fax paper in the dark.

#### **ON-LINE TRAVEL SHOPPING**

When I need to fly to a business meeting or convention, I use the technology that surrounds me for some specialized shopping. For example, I just made airline reservations for a business trip. I began by using my computer to call up the *Official Airline Guide* (available through CompuServe, Dow Jones, or other on-line services or by direct subscription). I turned on the capture mode of my telecommunications program and quickly grabbed the screens with all of the available connections among the three points of my trip.

Thus armed, I called the airline directly and bargained knowledgeably with the agent. Why do I say bargain? Although airlines have set fares for various classes of tickets, I always manage to find a better connection or a cheaper fare if I am simultaneously reading on-screen the same options the agent is examining. A connecting flight or an off-hour flight often saves me hundreds of dollars in airfare. I can also research available hotel rooms and rates online, with services like those offered by Prodigy.

#### 1990 ON MY OWN TOPIC INDEX

January, p. 59, Part I: "Leaving the Corporation."

February, p. 61, Part II: "A Web of Insurance."

March, p. 55, Part III: "Keeping Business Records."

April, p. 59, Part IV: "Planning and Building an Office."

May, p. 49, Part V: "Taking On a Partner." July, p. 52, Part VI: "Getting Paid What I'm Worth."

August, p. 51, Part VII: "Staying Connected to the Business World."

#### SPECIAL DELIVERY

Finally, how far will the trucker take my order? Is he expecting a delivery dock where he can leave the 1,250-pound safe I ordered and just drive away? Since my rural home office has no delivery dock and my office is down a flight of stairs, I make it a point to discuss my delivery needs whenever I make any large purchase and ask that special instructions, including the fact that the delivery is to be made in a residential area, be included on the bill of sale.

After all, one of the main reasons to shop by phone is to avoid driving, parking, and handling large boxes. I want to make sure I get my money's worth. ■

# First Annual Best Home-Business Contest

Be One of 60 Winners to Cash In on Over \$20,000 in Great Prizes

he search is on for the best homebased business. Just tell us about yourself and you could win one of sixty prizes worth a total of more than \$20,000.

Entering is easy: Just fill out a short entry form and include a profile of your business (see below for more details). Big profits and revenues aren't necessarily what we're looking for. We care more about your business smarts and your drive to succeed. You'll also score big points with us if you've successfully incorporated technology into your home business.

Mail your entries by November 15, 1990, to Best Home Business Contest, HOME-OF-FICE COMPUTING, 730 Broadway, New York, NY 10003. As an incentive to respond quickly, the first 500 entrants will receive the Fuji Home-Office Guide and \$150 worth of discount coupons for homeoffice supplies and accessories.



CompuAdd SX Success Kit:

- 316S 386SX computer with 40MB hard-disk drive, color VGA monitor, and
- · 24-Pin Panasonic
- · Windows 3.0, Paint-Show Plus, PC-FullBak, MS-DOS v4.01, DOS Help
- Computer paper, 10 blank disks, and a Smart Start Kit of software demos and special offers

Hewlett-Packard LaserJet III printer; Intel Above Board Plus 8 memory board; Intel 387SX Math CoProcessor; Logitech ScanMan Plus handheld scanner; and a SomaShield antiglare monitor screen



Toshiba T1200XE laptop computer



Ricoh RF-920 fax machine; Hayes 2400-bps modem; six-month subscription to Prodigy Fujitsu dex 150 fax machine and an Intel Service; and a SomaShield antiglare screen 2400EX modem



#### CONTEST

#### \$1,200 FOURTH PRIZE



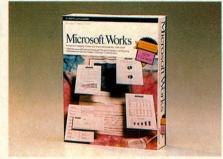
Tandy 2130 dot-matrix printer

#### \$1,000 FIFTH PRIZE



Intel Connection CoProcessor fax board and a DFI Handy Scanner 3000 Plus

#### \$150 SIXTH PRIZE (10 Winners)



A choice of either Microsoft Works or Microsoft Windows

#### **RUNNERS-UP (25 Winners)**



A copy of the new book Computer Power for Your Small Business: A Guide from HOME-OFFICE COMPUTING; \$23 value

#### **SEVENTH PRIZE (20 Winners)**

A Fuji Home-Office Bonus Pack; \$40 value
• The 24-page booklet The Fuji Home-

- Office Guide
   More than \$150 worth of coupons for discounts on home-office supplies and
- · 20 floppy disks

accessories

# HOME OFFICE BONUS PACK

#### **BEST HOME BUSINESS CONTEST ENTRY FORM**

#### **HOW TO ENTER?**

- **1.** Complete the entry form and attach it to your essay.
- **2.** Give us a profile (maximum 1,200 words) of your business, and be sure to include the following:
- **A.** Why you started your own business at home
  - B. How you started and financed your

#### business

- **C.** An explanation of past growth and potential for future expansion
- **D.** How you use technology to run your business
- **E.** Your techniques for market research and publicity, and how you adapt to current market trends
- **F.** A discussion of the advantages and drawbacks of working out of your home
- **G.** A description of the physical layout of your home office
- **H.** How you integrate/separate family and business affairs
- I. Information about any partners or employees
- **J.** Any supporting materials (brochures, business cards, press releases, newsletters, samples of your product) that might help your entry

#### **CONTEST RULES**

- **1.** To qualify, your entry *must* be a computer printout of no more than 1,200 words (about five pages double-spaced).
- **2.** Include a photo of yourself in your home office.
- **3.** Include your address and telephone number.
- **4.** All entries and photographs become the property of HOME-OFFICE COMPUTING. However, material will not be used in future publications and promotions without the prior consent of the entrant.
- **5.** Scholastic Inc. employees, advisory board members, and members of their families are ineligible.
- 6. No cash substitutes for prizes.

**DEADLINE:** All entries must be postmarked by November 15, 1990.

JUDGES: All entries will be judged by HOME-OFFICE COMPUTING editors and advisers. WINNERS: Winners will be announced in the

WINNERS: Winners will be announced in the May 1991 issue of HOME-OFFICE COMPUTING.

drawbacks of working out of your home	your entry
YOUR NAME:	Carried and the contract of the contract
BUSINESS TITLE:	TO A CONTRACTOR OF TO SOCIALIST
ADDRESS:	
BUSINESS NAME:	
TYPE OF BUSINESS: LIST THE COMPUTERS AND EQUIPMENT YOU USE: _	NO. OF YEARS IN BUSINESS:
LIST ALL SOFTWARE AND ON-LINE SERVICES YOU I	
APPROX. ANNUAL PROFITS*: APP	

\*Income and product information will be kept in strict confidence unless entrant gives permission for release of figures.



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TYPE, GRAPHICS & LASER PRINTERS 🗷 ELECTRONIC MAIL REPORTS, PRESENTATIONS, NEWSLETTERS 🙇 TAX PREPARATION MANAGING TIME , MONEY & PEOPLE A DIRECT-MAIL MARKETING ON-LINE MARKET RESEARCH BUSINESS & FINANCIAL PLANS

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#### -Alfred Glossbrenner

Author, Master Guide to Free Software and The Complete Handbook of Personal Computer Communications

COMPUTER POWER FOR YOUR SMALL BUSINESS is the first complete guide to giving your business the electronic edge! This detailed manual discusses everything computers can do, so that you can pinpoint the costs, advantages, and drawbacks of each project:

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- Business plans
- Electronic mail
- Desktop publishing and presentations
- Project planning
- Tax preparation
- Mailing lists
- And much more!

Includes highlights of the most popular products, plus an appendix with manufacturers' phone numbers.

"Jam-packed with useful information... It not only helps you see how to get the maximum use from your computer system, but gives solid advice on business planning and management of the business itself sales, information, time, people, finances."

> -Professor R. Stephen Jenks, Ph.D. **University of New Hampshire**



#### Nick Sullivan.

senior editor of Home Office Computing and author of its witty "Workstyles" column, has spent years interviewing businesspeople, reading their letters to H.O.C., fielding their inquiries. As a result, he's become one of the nation's experts in the use of computers in small business settings.

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# Moving Up to VGA—and Beyond

#### BY HENRY F. BEECHHOLD

Today there's no question that VGA is the display standard for IBM-compatible computer systems. It happened quietly. Within months of IBM's 1987 introduction of the new technology, other computer manufacturers began offering VGA displays as options with their top-of-the-line models. Not long afterward, VGA began to appear as standard equipment on such systems.

It's been well over a year now since EGA was the standard display routinely supplied with even midrange computer systems. For the overwhelming majority of today's computer models from reputable manufacturers,

Contributing editor HENRY F. BEECHHOLD regularly reviews hardware and software for HOME-OFFICE COMPUTING.

the display specification reads VGA. In fact, EGA is becoming harder to find. Why is that? EGA displays are easy to read and have always been quite a bit cheaper than VGA. The answer is simply that they aren't cheaper any longer; the price of VGA has dropped to the point where the two technologies cost about the same to produce. And since VGA offers at least some advantages to everyone, it's bye-bye EGA.

In fact, VGA has displaced older video technologies even at the low end of the market. Only a few computer models—those aimed at absolute rock-bottom cost—are equipped with the venerable monochrome Hercules graphics ("monographics") displays these days. Reason: VGA video can drive monochrome as well as color VGA

monitors, and the price difference between VGA mono and Hercules isn't usually great enough to outweigh VGA's advantages.

Let's explore some questions that should help you answer the big question: Should you upgrade to VGA?

#### Q: What are the advantages of VGA?

**A:** VGA's clearest benefit stems from its resolution advantage over EGA and other older color-display technologies. VGA's higher resolution (about 35 percent higher than EGA's) means crisper text, which in turn means that looking at the screen for long periods is less tiring to the eyes.

In a graphics environment, VGA's higher resolution means sharper, more detailed images. Also, more pixels on the screen means

### Reviews and Specifications of Six VGA Cards

We have selected for review a group of VGA video cards that run the full spectrum of the technology available in today's market, from basic to state-of-the-art. The following six 16-bit VGA cards are all designed for IBM-compatible computers with 8- or 16-bit ISA or EISA expansion slots. Each comes with setup utility software, diagnostics, and its own drivers for a number of popular programs (such as AutoCAD, Windows, GEM, Ventura Publisher, Lotus 1-2-3 and Symphony, and WordPerfect 5.0 and 5.1).



to around \$100, about the cost of an EGA

card. Definitely a bargain and definitely a

death knell for EGA.





the Video Seven or the NEC unit reviewed

here). Comes with drivers for a large num-

ber of programs.

			many Commentaries and the Comm
	Boca VGA (VGA001)	Boca SuperVGA (VGA002)	CompuAdd 16-Bit Hi-Rez VGA
Address	6401 Congress Ave., Boca Raton, FL 33487	6401 Congress Ave., Boca Raton, FL 33487	12303 Technology Blvd., Austin, TX 78727
Telephone	(407) 997-6227	(407) 997-6227	(512) 250-1489, (800) 627-1967
Rating	***	***	***
List Price	\$195	\$245	\$279/\$349 (plus 2% shipping)
Graphics Modes	640 x 480 (16 colors)	640 x 480 (16 colors) 800 x 600 (16 colors)	640 x 480 (16 or 256 colors) 800 x 600 (16 or 256 colors) 1,024 x 768 interlaced (16 or 256 colors)
Memory (Std./Max.)	256K/256K	256K/256K	512K/1MB
Warranty	Five years	Five years	One year
Review	Solid, no-frills card like other Boca prod- ucts. Produces high-quality VGA output (but no extra modes) at a reasonable display speed. Card installation is fully automatic (no switches to fuss with). Often discounted	Dazzling output in both modes, and better image quality than Boca's VGA001 even at standard VGA resolution (640 by 480). Given the performance improvement for only \$50 more (list), the VGA001 seems a	Competitively priced (but no discounts; the list price is the real price). True, vivid, well-saturated colors and a clear, stable image overall. Rewrites the screen at a reasonable pace (although not nearly so fast as either

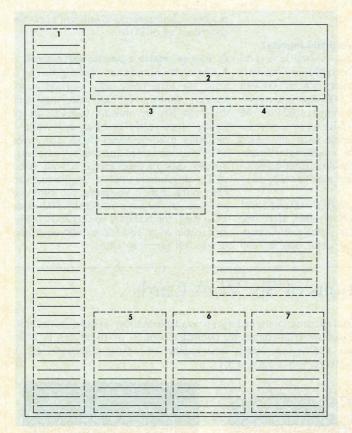
automatic.

poor choice. This card is a best buy-espe-

cially at normal discount-unless you need

1,024 by 768 resolution. Installation is fully

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#### HARDWARE MINIGUIDE

more effective screen area. These are significant advantages for people working with CAD (computer-aided design), graphic-drawing, or desktop-publishing packages or graphical user interfaces like *DeskMate* or *Windows*.

VGA also has enhanced color capabilities relative to EGA, MCGA, and CGA. (See "IBM-Compatible Video Standards.") Both EGA and VGA can display as many as 16 colors simultaneously, but VGA draws from a palette of more than 250,000 shades (compared with 64 for EGA). Impressive as this is, it probably won't mean much to most business people.

#### Q: Is now the time to upgrade to VGA?

A: There's no clear answer to this question. If you have an EGA display and you're satisfied with it, there's no reason to upgrade now, especially if the upgrade would entail replacing both monitor and card (which will cost between \$600 and \$750, total, for a color system). If you already have a good multifrequency monitor (see 'Video Terms to Know'), you could enjoy the benefits of

color VGA for less than \$200—the price of a good VGA video card.

Just to make this decision a little more complicated, though, there are several enhanced versions of VGA that provide even higher resolution (and/or more colors) than standard VGA. Anyone seriously contemplating an upgrade to VGA should consider these alternatives as well.

#### Q: What are the enhanced VGA formats?

**A:** The term *super VGA* is used loosely to refer to three of the four enhanced formats: 640 by 480 with 256 colors, 800 by 600 with 16 colors, and 800 by 600 with 256 colors. The highest-resolution format, 1,024 by 768 with 16 colors, doesn't have a name, as such.

Unless you're a graphic artist, the added color capacity won't be a meaningful factor. Improvements in text quality (from the resolution increase) probably won't be a decisive advantage, either.

The big payoff with 800 by 600 and 1,024 by 768 comes in graphics mode. Here, the higher resolution means significantly sharper, more detailed images (for drawing and

CAD applications), and the larger number of pixels means greater effective screen area. For *Windows* users in particular, this is a potential bonanza.

Compared with EGA, standard VGA (640 by 480) offers 130 percent of the effective screen area, super VGA (800 by 600) offers 208 percent, and 1,024 by 768 provides 340 percent—almost three-and-one-half times the effective area of EGA!

#### Q: How do I match a monitor with a card?

**A.** The card and monitor work together as a team, the team being only as good as its weaker member. A VGA video card will drive virtually any monitor that will accept analog input—color or black and white—including fixed-frequency VGA and super VGA monitors and multifrequency monitors. To take maximum advantage of your video card's capabilities, select a monitor that can deliver the highest resolution the card can generate. If you have an 800 by 600 super VGA card, for example, you'll need a monitor capable of at least 800 by 600 resolution to take full advantage of it.

### Reviews and Specifications of Six VGA Cards

We have selected for review a group of VGA video cards that run the full spectrum of the technology available in today's market, from basic to state-of-the-art. The following six 16-bit VGA cards are all designed for IBM-compatible computers with 8- or 16-bit ISA or EISA expansion slots. Each comes with setup utility software, diagnostics, and its own drivers for a number of popular programs (such as AutoCAD, GEM, Ventura Publisher, Lotus 1-2-3 and Symphony, and WordPerfect 5.0 and 5.1).







video microprocessor.

	Genoa SuperVGA Model 6400	Headland Technology Video Seven VGA 1024i	NEC MultiSync Graphics Engine MGE-AT
Address	75 E. Trimble Rd., San Jose, CA 95131	46221 Landing Pkwy., Fremont, CA 94538	1255 Michael Dr., Wood Dale, IL 60191
Telephone	(408) 432-9090, (800) 423-6211	(415) 623-7857	(708) 860-0335, (800) 366-3632
Rating	***	***	***
List Price	\$399	\$397/\$497	\$1,499
Graphics Modes	640 x 480 (16 or 256 colors) 800 x 600 (16 or 256 colors) 1,024 x 768 interlaced (4 or 16 colors)	640 x 480 (16 or 256 colors) 800 x 600 (16 colors) 1,024 x 768 interlaced (2, 4, or 16 colors)	640 x 480 (16 or 256 colors) 800 x 600 (16 or 256 colors) 1,024 x 768 interlaced (2, 4, or 16 colors) 1,024 x 768 (2, 4, or 16 colors)
Memory (Std./Max.)	512K/512K	256K/512K	1MB, plus 768K for the video coprocessor
Warranty	One year	Seven years	One year
Review	Will tickle your multifrequency monitor into delivering the best it's capable of—up to the maximum VGA resolution of 1,024 by 768. Screen rewriting is reasonably fast; colors are true and well saturated; text is sharp. Higher "vertical refresh rate" (70 Hz) (see Video Terms to Know) than many similar products contributes to crisp images. Setup is relatively simple. Attractively priced for a	A winner from Video Seven. Can take full advantage of most monitors available in the PC world. List price is high, but so is performance—backed by a seven-year warranty. Display quality, with clear, bright colors and sharply defined text, matches or surpasses just about anything on the market. Displays information 50 percent faster than a typical VGA card owing to special FastWrite cach-	High-cost, high-performance card for people doing full-time graphics-intensive work such as computer-assisted design (CAD) or desktop publishing. Produces a beautiful display, but primary purpose is maximum screen-drawing speed for graphic images. Displays information to the screen many times faster than a general-purpose VGA card because of its own 50MHz (!) dedicated

ing system.

maximum-resolution card.



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#### **VIDEO TERMS TO KNOW**

**Analog.** Describes monitors that use varying voltages to control color intensities: a slightly higher voltage will produce a slightly more intense color. All VGA displays are analog systems. **Digital** displays, like EGA, use on/off signals only and produce a far more limited range of colors.

**Dot pitch.** The distance between adjacent dots (pixels). The smaller the number, the sharper the image. Proper dot pitch for high-quality VGA is 0.31 millimeter or smaller.

Enhanced text modes. The standard text mode for IBM-compatible computers provides a maximum of 25 lines of text with 80 characters per line. The higher resolution (and smaller pixels) of EGA and VGA allows the design of smaller, but legible, characters—up to 45 lines of text with 150 characters per line. In order for a software package to use any of these modes, it must have a specific driver available.

**Fixed-frequency monitor.** A monitor designed to operate off one specific type of video output. Most monitors are fixed-frequency; for example, a VGA monitor will work only with a VGA card.

**Interlace.** A technique of redrawing a screen in which alternate lines are refreshed on alternate passes of the electron beam. It results in a

less sharp image than *noninterlaced* redrawing, in which each line is redrawn on every pass.

**Multifrequency** (MultiSync, multiscanning, Ultrasync) **monitor.** A monitor designed to work with output from a variety of different types of video cards, spanning a range of resolutions (frequencies) and refresh rates.

**Pixel.** A coined word, from *pix* (picture) *el*ement. Synonymous with *dot*.

**Refresh rate (vertical).** The number of passes per second with which the electron beam scans the screen surface; usually somewhere between 50 and 75 (given in hertz [Hz]). The higher the rate, the sharper the image.

**Resolution.** The number of dots (horizontally and vertically) that make up the total screen image. Standard EGA resolution, for example, is 640 dots horizontally by 350 dots vertically.

**Screen redraw.** Generating a new image, a new arrangement of pixels on the screen.

Screen refresh. The process of redrawing the screen so that the image doesn't fade away. When the electron beam strikes the phosphor on the inside of the monitor's video tube, it glows only briefly. Thus, the screen needs to be redrawn regularly whether or not the image has changed.

#### Q: Will VGA work with my software?

A: Because VGA monitors and cards can also emulate earlier display standards, almost all older programs will work with a VGA system. In order to take advantage of VGA's increased capabilities, however, a program needs a VGA driver. Any version of nearly any commercial software package published within the last few years will have a driver for standard VGA. By and large, software publishers have not provided drivers for the new, nonstandard super VGA formats (recall that super VGA cards and monitors can also function as standard VGA display systems). However, most manufacturers of super VGA cards provide their own video drivers for a number of popular programs (Ventura, PageMaker, AutoCAD, GEM, Lotus 1-2-3, Windows, WordPerfect, and perhaps a few others) that really benefit from the increased resolution. This allows owners to take maximum advantage of their cards' capabilities.

If you can't find a VGA driver, you can still be confident that any text-only program you can run on your system will work with a VGA card. With older graphics applications, however, there is a small chance that you may have a problem. If you're in any doubt about particular software packages that you work with, a prepurchase inquiry (to the manufacturer of the card you're considering, or to the dealer you're buying from) is a wise precaution.

### Q: What's the difference between 8-bit and 16-bit VGA cards?

A: If you have a 286-, 386-, or 486-based computer, a 16-bit card will run the display faster than an 8-bit card. You can run either type in an 8088- or 8086-based computer, but the 16-bit card will give no speed advantage. Soon this won't be an issue, however, since 8-bit cards are rapidly disappearing.

#### Q: What's the story on VGA memory?

**A:** The current generation of VGA cards all come equipped with at least 256K of RAM, which is used to store data for drawing the screen. The 256-color super VGA specifications require substantially more RAM than this, so some cards provide extra RAM while others provide space for more chips so they can be upgraded if necessary.

#### Q: What does the future hold for VGA?

**A:** The immediate future appears to be a time of consolidation. Four enhanced VGA specifications (*listed below*) have emerged; now they need to be standardized. In May 1990, VESA (Video Electronics Standards Association) *did* standardize the vertical refresh rate (*see ''Video Terms to Know''*) for 800 by 600 super VGA at a new, high level of 72-Hz, meaning that super VGA displays will be even sharper in the future. Look for the new 72-Hz super VGA cards over the next few months. But be aware that, while these new cards should work fine with any multifre-

quency monitor, existing fixed-frequency super VGA monitors won't be able to take advantage of their increased clarity and may not work at all with some new cards.

Standardization benefits manufacturers and users alike. With firm technical specs in place, a manufacturer can make *one* monitor for, say, 800 by 600 with 16 colors, not one that works with card A, another that works with card B, and a third that works with card C. This means substantially lower manufacturing costs, with savings that will doubtless be passed down to the user. As the cost of high-resolution monitors drops, more of us will buy them and begin to enjoy their benefits.

## IBM-COMPATIBLE VIDEO STANDARDS

As display standards have evolved over the history of personal computers, the main improvement has been in the area of resolution, which has increased steadily. Today, general-purpose VGA systems have resolutions equaling or surpassing those of special-purpose "high-resolution" systems of a few years ago.

MDA (Monochrome Display Adapter). The lowest common denominator for IBM-compatible displays. The original IBM PC came with MDA, which is monochrome only and supports no graphics, just text.

CGA (Color Graphics Adapter). The original IBM color graphics standard, dating from 1981. Its limited color capability and its poor resolution make it an unwise choice today.

**HGC (Hercules Graphics Card).** The de facto standard in monochrome graphics from its introduction in 1982 until fairly recently. Hercules Graphics, with its 720 by 348 resolution, gives quite a crisp image, but no color.

**EGA** (Enhanced Graphics Adapter). Color graphics standard with 640 by 350 resolution, which was introduced by IBM in 1984. It allows simultaneous display of 16 colors (from a palette of 64).

MCGA (Multi Color Graphics Array). A standard created by IBM specifically for its PS/2 Models 25 and 30. It provides the color capabilities of VGA at a lower resolution.

**VGA (Video Graphics Array).** An analog color display system introduced in 1987 by IBM. It has a slight resolution advantage over EGA and can produce more than a quarter of a million different colors (16 at a time at 640 by 480 resolution; 256 at a time at 320 by 200 resolution).

**Super VGA.** A VGA system that produces higher resolution than standard (640 by 480) VGA, or more colors, or both. It most commonly refers to 800 by 600 resolution with either 16 or 256 colors.

**8514/A.** IBM's latest display technology. It is an interlaced system with 1,024 by 768 resolution and up to 256 colors.

**1,024 by 768.** The generic term for the highest VGA resolution in current use. Both interlaced (like IBM's patented 8514/A) and noninterlaced versions available.

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**NEC MultiSync 4D** 

Rating: ★ ★

AT A GLANCE: High-resolution monitor with a high price to match. Brilliant color, but some noticeable distortion.

DOCUMENTATION: Easy to follow, with clear, well-labeled illustrations.

SETUP: Only a few steps.

EASE OF USE: Simple; all controls are labeled and explained.

VALUE: Fair to good, depending on your display

SUPPORT: Toll-free telephone support, 8:30 a.m. to 7:00 p.m. Central time, Monday through Friday. LIST PRICE: \$1,799

MANUFACTURER: NEC Home Electronics, Inc., 1255 Michael Dr., Wood Dale, IL 60191-1094; (708) 860-0335, (800) PHONE-NEC

MAXIMUM RESOLUTION: 1,024 by 768 pixels

DOT PITCH: 0.28 mm

COLORS: Unlimited colors, depending on video card used

or Macintosh II—with a 15-pin analog output

DISPLAY AREA: 15 inches, measured diagonally DIMENSIONS: 15.4 by 15.2 by 18.7 inches

WARRANTY: Labor, one year; parts, two years

The latest in the famous MultiSync line, this multifrequency monitor from NEC is big. And beautiful. And expensive. We're including a look at the MultiSync 4D primarily because it is one of the few existing



In combination with the right video card, the MultiSync 4D produces sharp and clear images.

monitors that can do justice to all the video cards discussed in this month's Hardware Miniguide. It is perhaps the only available 15-inch monitor that can display the highest resolution (1,024 by 768) in *noninterlaced* mode. (Briefly, an interlaced display redraws alternate lines of the screen on alternate passes of the electron beam. A noninterlaced display redraws every line on every pass.) Noninterlaced displays are sharper than interlaced ones and produce less persistence, the lingering of an image on the screen

Like other multifrequency monitors, the 4D is compatible with any analog video card output up to its maximum resolution, but the MultiSync 4D also has its own microprocessor preprogrammed to duplicate a variety of standard display modes. This ensures a rock-solid image at any resolution and eliminates the need for manual adjustments when changing modes. Furthermore, the system can be reprogrammed to customize the display to virtually any graphics adapter, IBM compatible or Macintosh II.

The MultiSync 4D produces sharp text and bright, well-saturated colors. The fairly deep curve of the display tube causes some distortion, though. Moreover, the vertical edges of the image aren't entirely straight, although the slight waviness may not be the sort of thing you'd be likely to notice.

Aside from the minor distortion problem,

this is a first-rate monitor—reliable, flexible, and capable of providing the kind of resolution required for serious desktop-publishing and CAD applications. To take full advantage of this monitor's capabilities, you'll need a top-flight video card (such as NEC's own MultiSync Graphics Engine MGE-AT 256). The combination will be costly.

—HENRY F. BEECHHOLD

## DeskMate Makes Tandy 286 Easy to Use

Tandy 2500XL

Rating: ★ ★

AT A GLANCE: A good 80286-based computer; not fast, but reliable and easy to use.

DOCUMENTATION: Very good; the DeskMate manual is especially helpful, with clear illustrations and explanations.

SETUP: Quick and easy; just plug it in and go; DOS in ROM; computer boots immediately to DeskMate user interface.

EASE OF USE: Outstanding; DeskMate takes all the pain out of using DOS and running programs. VALUE: Fair.

SUPPORT: Fair; technical help available through PC-Link on-line information service (modem required). Phone support available, although not toll-free.

LIST PRICE: \$2,727

MANUFACTURER: Tandy Corp., 1800 One Tandy Center, Fort Worth, TX 76102; (817) 390-3011

DISPLAY: 16-bit, color VGA monitor

MICROPROCESSOR: 10-MHz 80286

MEMORY: 1MB expandable to 16MB

DISK DRIVES: One 3.5-inch 1.44MB floppy; one 52MB hard-disk drive (19 ms)

PORTS: One parallel, one serial, one mouse port FREE EXPANSION SLOTS: Three 16-bit

SOFTWARE INCLUDED: DOS 3.3 (in ROM), GW-BASIC, DeskMate graphical user interface

DIMENSIONS: 15.5 by 15 by 4.25 inches WARRANTY: 1 year

What you'll notice first about the Tandy 2500XL is that it is just about the smallest 80286 desktop you've seen.

The front panel is simplicity itself: power button (with indicator light), horizontal disk

## **REVIEWED IN THIS ISSUE**

**VGA Cards:** 

Boca VGA
Boca SuperVGA
CompuAdd 16-Bit Hi-Rez VGA
Genoa SuperVGA Model 6400
Headland Technology Video Seven VGA
1024i

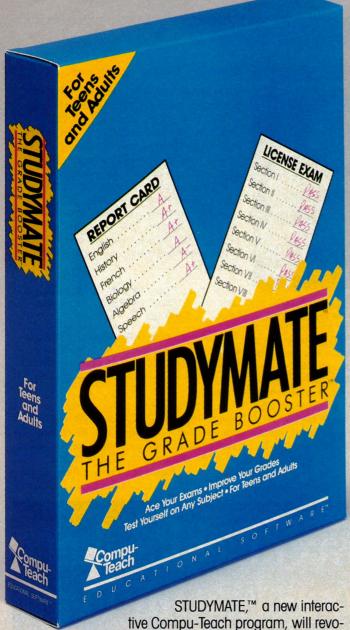
NEC MultiSync Graphics Engine MGE-AT 256

Monitor:

NEC MultiSync 4D

Computer:

Tandy 2500XL Copier: Sanyo SFT-50L



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## HARDWARE REVIEWS

drive, and reset button. Along with the keyboard, serial, parallel, mouse, and video connectors on the back panel are connectors for an earphone and a microphone, part of the computer's built-in sound and music system. Unfortunately, neither the User's Guide nor the Music & Sound manual gives any information about these connectors other than to advise you of their presence.

The 2500XL's keyboard is among the better ones I've used. It's solidly constructed, and the keys have a fairly good touch. The inward curve of the key rows makes for comfortable typing.

Among desktop computers (other than Tandy's), the 2500XL is unusual because it uses DOS in ROM, which is controlled by a ROM-based shell called *DeskMate*. As soon as you turn on the computer—even if you don't have a hard-disk drive—it will boot to the *DeskMate* core, which displays a *Windows*-like environment.

The DeskMate firmware/software adds up to a productivity system that could be all you need in your home office. It includes word-processing, spell-checking, calendar, filer, spreadsheet, telecommunications, drawing, calculator, musical-composition, and notepad applications. As integrated software goes, it's not bad. However, if your work happens to require high-powered all software. DeskMate-cot tion into Destroy with the programment of the production into Destroy with the production into D



The Address Book is a function of DeskMate, the software included with the Tandy 2500XL.

word processing, accounting, or page-layout capabilities, you may prefer to buy additional software. Other companies are making *DeskMate*-compatible software for installation into *DeskMate*. In the *Windows* tradition, you will be able to access these additional programs from the *DeskMate* shell. Among the programs available are Intuit's *Quicken*, Lotus 1-2-3, PFS: First Publisher, Tandy's *DeskMate Thesaurus*, and *DacEasy Accounting* 

## **About Our Reviews and Ratings**

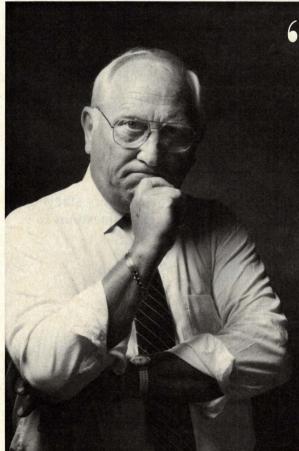
Every month we take an in-depth look at new computers, computer peripherals, and other home-office hardware, such as fax machines, telephones, and copiers. We concentrate on products we believe will be valuable to our readers—productive tools for the home- or small-business environment.

Each product is evaluated on its performance, features, documentation, setup, ease of learning and use, versatility, availability, warranty, support, and value. HOME-OF-FICE COMPUTING's technical editors then assign an overall rating on a scale of zero to four stars:

○ Poor ★★★ Very Good
 ★ Fair ★★★ Excellent
 ★ Good

These ratings also reflect extensive use and testing of the equipment by our expert reviewers working in their own home offices.

Is the 2500XL a good choice for the home office? I like its size, looks, quality, and built-ins. *DeskMate* may be a helpful user interface for some, but I prefer to work directly through DOS—it's faster and there's less chance of a crash. I'd be tempt-



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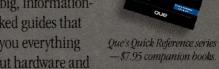


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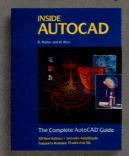
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## HARDWARE REVIEWS

ed to buy this computer if I were not looking for speed and a lot of expandability—and if 386SX machines weren't competitive in price. I like that there are Radio Shack stores and Computer Centers all over the country, which means that some sort of help is always close at hand. On balance, I have to give this computer a resounding maybe.

HENRY BEECHHOLD

## Low-Volume, High-Quality Copier Sanvo SFT-50L

Rating: ★ ★ ★

AT A GLANCE: A portable, high-quality copier intended for low-volume copying.

DOCUMENTATION: Clear and complete.

SETUP: Simple.

EASE OF USE: As easy as pushing one button.

VALUE: Very good.

SUPPORT: Through dealers only.

LIST PRICE: \$1,095

MANUFACTURER: Sanyo Business Systems Corp., 51 Joseph St., Moonachie, NJ 07074; (201) 440-9300; Fax (201) 440-5430

*OPTIONS:* Three monochrome color toner cartridges (black, red, blue) for color copying (black, \$149; color, \$169 each)

DIMENSIONS: 15.75 by 15.75 by 4.8 inches

WEIGHT: 26.4 pounds

WARRANTY: 90 days

The SFT-50L is Sanyo's first portable copier on the market. List priced just over \$1,000, it performs the most basic copying functions without a fuss.

The beauty of the unit is its simplicity. Setup and operation are straightforward. The toner cartridge loads behind the front panel, and the paper trays fold out to feed and receive documents. To operate, push the copy button.

The control panel's three buttons serve to set the desired number of copies, start the copying process, and stop copying. A digital readout displays the number of copies you wish to make (up to 20 at a time). It also flashes codes to indicate problems, such as running out of paper or paper jams. In more than five weeks of use, however, the unit's paper never jammed.

This copier does not enlarge or reduce, but the copy quality is excellent and it can make copies as large as 8.5 by 14 inches.

The Sanyo SFT-50L is not intended for high-volume copying. It produces five legal-size or six letter-size copies per minute, a bit slower than other copiers in its class. A power-saving feature automatically switches

the copier to a dormant mode when not in regular use. It needs about 20 seconds before it's ready to copy again.

Although it copies using a moving platen and requires about 30 inches of desk space in which to operate, this Sanyo copier is very compact (about the size of a VCR)—and at 24 pounds, it's one of the lightest copiers around. The carrying handle makes toting it even easier.

This Sanyo doesn't dazzle or excite. It's as low-key as its generic exterior. But it does everything it's supposed to do well and at a modest price. If you need a dependable, part-time copier, don't overlook this newcomer.

—ANDREW TORRES



Its small size is one of the features that make the Sanyo SFT-50L an attractive buy for the home office.

Introducing Fellowes. Compact Personal Shredder. For less than \$150, it's a little Shredder for a lot more people.



Now it makes more sense than ever to have a shredder of your own. The Fellowes Compact Personal Shredder is

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**76** HOME-OFFICE COMPUTING

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Just watch TV and follow along as your instructor guides you step-by-step through every feature and function of WordPerfect. You can't get lost. Each tape is divided into convenient sections, and has a running time index that makes finding specific topics fast and easy. Over 50,000 business, government, and educational professionals have used "Teach Me How" videos to master WordPerfect. All LearnKey products carry a money-back guarantee, so order your copies today. It's the perfect way to learn WordPerfect.

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This video teaches installation, basic document creation, saving, printing, editing and much more. Created specifically for first time computer users. 2 hours.

Available in versions 5.1, 5.0, 4.2

## Advanced WordPerfect - \$49.95



Teaches the power features of WordPerfect. Creating macros, styles, graphics, speller, thesaurus, headers, and footnotes are just some of the features you'll learn to master.

2 hours. Available in versions 5.1, 5.0, 4.2

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Both the Beginning and Advanced WordPerfect as described above. Two 2 hour video tapes.

Available in versions 5.1, 5.0, 4.2

## WordPerfect Update - \$49.95



This video offers the experienced WordPerfect user a quick way of learning the new features of WordPerfect's latest version.

2 hours.

Available in versions 5.1, 5.0

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Taught by a legal and WordPerfect expert, you'll learn how to automate many routine tasks in the legal office like depositions, briefs, table of authorities, and more. 3 hours.

Available in version 5.0

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## Perfect Publishing with WordPerfect - \$99.95



This video mixes basic graphic design with WordPerfect Tips & Tricks to help you get great ideas and produce better looking newsletters, brochures, and flyers. Featuring an expert WordPerfect publisher and eight professional graphic designers. 4 hours. Vers. 5.1, 5.0

## Discover DOS - \$49.95 NEW!



Scott Zimmerman teaches new computer users the basics of DOS. Chapters on prompts, directories, copy, batch files, format and more will help you feel at ease with DOS.

2 hours.

## OFFICE ESSENTIALS

## BY LISA THOMAS



Roadwork Ahead, Your car may be idle, but you don't have to be. Time spent in your car at airports or waiting for your next meeting could provide good opportunities to catch up on unfinished business. The PowerTrip converter plugs into the cigarette-lighter socket to function as an ener-

gy source for your portable printer, facsimile machine, or laptop computer. It weighs less than a pound and is small enough to fit into your shirt pocket or purse. \$200. From Zirco, Inc., 10900 W. 44th Ave., Wheat Ridge, CO 80033; (303) 421-2013.



Fits Like a Glove. Shield your computer keyboard from dust, spills, and other substances that could cause damage and downtime. The SafeSkin keyboard cover is made from a flexible, transparent polyurethane film that can be easily cleaned with soapy water and a damp cloth. SafeSkin is custom designed to fit your keyboard model, and once you secure it, you need never remove it. \$30. From Merritt Computer Products, Inc., 5565 Red Bird Center Dr., Suite 150, Dallas, TX 75237; (214) 339-0753.

A Freebie From Fuji. Until December 31, specially marked 10-packs of 3.5- and 5.25-inch Fuji Film Floppy Disks will include a free demo disk of Lotus Magellan version 2.0 for IBM PCs and compatibles, along with a \$25 rebate coupon toward the purchase of this harddisk management program. \$45 for 3.5-inch disks. \$22 for 5.25-inch disks. From Fuji Photo Film USA Inc., 555 Taxter Rd., Elmsford, NY 10523; (914) 789-8100.



LISA THOMAS, editorial coordinator for HOME-OFFICE COMPUTING. knows an office essential when she sees one.



Make a Connection. Business travelers often have trouble connecting their modems to hotel-room jacks. Here's a solution: Wrap the Telecoupler around a telephone handset and insert the modular plug into the line jack of the modem. Data is transmitted from modem to mouthpiece and from earpiece to modem. Four AAA batteries are required. \$150. From Computer Products Plus, Inc., 16351 Gothard St., Huntington Beach, CA 92647; (714) 847-1799.



Guard Against Disk Damage. Traveling with a lot of disks is risky. You need to protect as well as organize them. This compact Disk Pocket Library, made of hardwood with foam padding and an antimagnetic shielding, holds 20 3.5-inch or 5.25-inch disks. It is designed to protect against moisture, abrasion, and exposure to magnetic and X-ray fields. The library also features a pen holder and business-card slots. \$25-\$30. From Jensen Tools, 7815 S. 46th St., Phoenix, AZ 85044; (602) 968-6241.

Keep It Clean. Routine maintenance is essential for continued high performance from your computer system. Suncom Technologies' lat-Computer Cleaning Vacuum Kit contains everything you need to keep



your monitor, keyboard, mouse, and disk drives free from dust and dirt. Disk-head cleaners for 3.5- and 5.25-inch disk drives are included. Four AA batteries are required. \$30. From Suncom Technologies, 6400 W. Gross Point Rd., Niles, IL 60648; (708) 647-4040.



It used to be that if you wanted to scan text by hand, you had to settle for a software solution that just didn't make the grade.

But now there's ReadRight Personal. The most reliable, intelligent OCR software ever made for hand scanning. The one that finally makes text scanning by hand worthwhile.

Not only does new ReadRight Personal save you from typing, it saves you from mistakes.

In fact, it reads text with the highest degree of accuracy available. Up to 99.5%, to be exact. Which is precisely the kind of performance you'd expect from the

number one name in OCR software.

ReadRight Personal reads it all, too. It's based on proven omnifont technology. Which means it automatically recognizes just about every font known to the business world. At first sight. So you can get right down to scanning all kinds of text minutes after you open the box. From typewritten memos and typeset articles, to NLQ, draft dot matrix and laser printed documents.

Page size isn't a problem, either. ReadRight Personal merges strips of scanned text to form a whole page for you. It also understands layout and text attributes.

IBM® PC or compatible, running DOS 3.0 or higher, ReadRight Personal reads and converts text for direct use in popular software applications, including WordPerfect,® Microsoft® Word, Lotus® 1-2-3, Excel, and dBASE.®

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ReadRight Personal

The OCR software

# Five Desktop-Publishing Programs Especially Suited for Page-Layout Beginners

## Two Low-Priced DTP Programs for the PC

Express Publisher and Finesse are two of the better MS-DOS desktop-publishing (DTP) programs to surface in the past year. Although they are in the same low-price range and share many basic features, there are several differences worth noting.

**Side-by-side test.** Lists of features can be attractive selling points, but for me the real test began when I started using the programs in my own office environment. Although both programs delivered quite a bit of bang for the buck, when I used them side-by-side, a clear winner emerged.

In my everyday work, I use DTP for creating things like fliers, announcements, catalogs, newsletters, proposals, memos, and résumés. To test Express Publisher and Finesse, I simply used them on tasks I normally encounter. When I wanted to apply for a teaching position at an art school in town, I needed to put together an attractive résumé package. At the same time, a local concert promoter asked me to create a poster to advertise an upcoming show. Each job required a unique layout that subtly combined text and graphic images for a desired effect—something that Express Publisher and Finesse both claim to do well.

**System demands.** Since DTP programs traditionally use a lot of memory and disk space, it was no surprise to find that each of these programs requires at least 640K of RAM, a hard-disk drive, and a mouse to operate. Though both *Express Publisher* and *Finesse* will work with slower (under 8 MHz) computers, I highly recommend using a computer with a processor speed of at least 10 MHz.

Running on my 640K, 12-MHz PC compatible, Finesse—which uses Digital Research's GEM graphics interface—ran quickly and without problems. Express Publisher, with its unique graphical user interface, worked quite a bit slower—especially in the areas of screen refreshing and printing. When I asked the publisher's technical-

## **Finesse**



Finesse can import graphics directly from a hand held scanner.

## Rating: ★ ★ ★ ★

AT A GLANCE: Especially fast when printing high-quality documents, but limited graphics tools. Imports some popular graphics and text files (but not all), with graphic scanning directly into program. Takes a long time to install Bitstream fonts.

**DOCUMENTATION:** Good tutorials, reference section, quick-reference card, and poster of fonts.

ERROR HANDLING: Understandable error messages. No fatal crashes.

EASE OF USE: Simple-to-follow intuitive GEM interface. Can be a bit difficult for novices who have low-resolution displays.

SUPPORT: Experienced, unlimited free support by phone (not toll-free) or mail.

**VERSION REVIEWED: 3.1** 

PRICE: \$179

SYSTEM REQUIREMENTS: 640K IBM compatible; hard-disk drive; CGA, EGA, VGA, MCGA, or Hercules; mouse; DOS 2.1 or higher (3.1 for Bitstream fontware); 5.25- or 3.5-inch

PUBLISHER: Logitech Inc., 6505 Kaiser Dr., Fremont, CA 94555; (415) 795-8500

## **Express Publisher**



Express Publisher delivers professional results with time and practice.

## Rating: ★ ★ ★

AT A GLANCE: Produces professional-looking pages from large set of tools, but prints and redraws screen too slowly. Imports popular graphic and text formats but can't scan images directly into program.

DOCUMENTATION: Well written—mostly tutorial with many illustrations.

ERROR HANDLING: No fatal errors. Trouble-shooting section in manual was helpful.

EASE OF USE: Fairly easy for experienced user, but can confuse novices when it comes to file importing or use with low-resolution display.

SUPPORT: Free and knowledgeable technical support via phone (not toll-free) or mail.

VERSION REVIEWED: 1.1 (2.0 previewed)

PRICE: 1.1, \$150 (2.0, \$160)

SYSTEM REQUIREMENTS: 640K IBM compatible; hard-disk drive; CGA, EGA, VGA, MCGA, or Hercules; mouse; DOS 3.0 or higher; 5.25- and 3.5-inch

**PUBLISHER:** Power Up! Software Corp., 2929 Campus Dr., San Mateo, CA 94403; (415) 345-5900

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HAROLD B. REEB

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the money-making opportunities created by the computer revolution.

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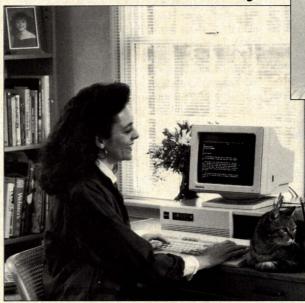
Whether you want to make big money running a full-time business or just boost your current income with part-time work, NRI gives you the hands-on technical training and software expertise you need to succeed in your field. Even better, you get the business knowledge to make your enterprise thrive as you learn how to set up the ideal home office, get and keep good-paying clients, budget your resources, grow your profits, and more.

## 1. Start your own publishing business right from your desktop

Just about every organization you can think of—from small businesses to large corporations—publishes something. That means top-dollar opportunities for people who can transform words and pictures into eye-catching, results-getting publications.

With NRI's new training you can cash in on this demand by starting your own business designing and producing brochures, flyers, newsletters, catalogs, and more, using one of today's most exciting computer technologies: desktop publishing.

Creative, hands-on projects with the professional design tools we provide help you first master the fundamentals of publishing: editing, design, and layout. Then you leap to contemporary publishing



techniques with the IBM-compatible computer, desktop publishing software, mouse, and printer *included* in your course.

Even if you've never worked with a computer before, you'll be astonished at how easily and quickly you can use your design skills to create exciting page layouts, generate finished artwork, and turn a profit—virtually at the touch of a button.

## 2. Make good money in word processing with your computer and WordPerfect\* software

Look in any Sunday paper and you'll see just how big a demand exists for word processing services. In fact, trained professionals actually earn up to \$50 an hour!

Now NRI gives you everything you need to launch a successful word processing business at home—including an IBM-compatible computer and today's most in-demand word processing software, WordPerfect.®

From proofreading to on-screen editing, you get every skill you need to earn top dollar selling word processing services from your home. Most important, you learn by doing. Practical projects prepare you to use your computer and software to produce resumes, legal briefs, academic papers, business correspondence, proposals, medical transcriptions, mailing lists, and more for an unlimited range of clients.

## 3. Be your own boss in a homebased bookkeeping business

Among the most popular home-based services today, bookkeeping and accounting offers tremendous money-making potential for the trained professional who can use a personal computer to produce accurate, HAROLD B. REEB President NRI Schools

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## SOFTWARE REVIEWS

## **About Software Reviews**

Our software reviews use shorthand to describe several of the details associated with any package. Hardware, software, and memory are required unless noted as "recommended" or "optional." When more than one computer is listed under "System Requirements," the machine marked with an asterisk (\*) is the type on which the software was reviewed. Requirements are not listed where obvious (for instance, printers with word processors or modems with communications programs). For computer systems that can use both 5.25- and 3.5-inch disks (such as the IBM PC and PS/2), we've listed only those disk sizes that are either supplied with the software or available at no extra cost from the publisher.

Designation	Mod	els	
IBM PC, PS	/2 PC/X	T/AT, PS/2 a	and compatibles
512K Macint	osh 512K	/512Ke/Plus/S	SE/II series
512Ke Macir	ntosh 512K	e/Plus/SE/II s	eries
1MB Macint	osh Plus/	SE/II series	
0	Poor	***	Very Good
*	Fair	****	Excellent
**	Good		

support staff about this, I was told that I would achieve greater performance using extended or expanded memory over my 640K. This, I was told, is because Express Publisher uses the hard-disk drive for virtual memory—which is much slower than using RAM. In addition, I was reminded that Express Publisher lets you turn off its bit-mapped fonts in favor of the system font and use low-resolution, shaded rectangles to represent high-resolution images on the screen. Trying this did speed things up, but it made it harder to tell on-screen what my documents would look like when printed.

When it comes to video displays and adapters, both *Express Publisher* and *Finesse* work with popular CGA, Hercules, MCGA, EGA, and VGA formats. *Finesse*, however, also provides support for some higher-resolution adapters, such as the Wyse/Amdek (1,280 by 800 pixels). The video adapter (and display) in use has everything to do with how much of a document is seen on-screen. You can see only a few inches of your document at a time if you use a 600-by-200-pixel CGA adapter. Switching to a 1,280-by-800-pixel format brings a whole page into the picture.

**On-screen views.** I tested Express Publisher and Finesse using an EGA (640-by-350) adapter, and many times I felt a bit claustro-

phobic, wishing I were using at least a VGA display. When working on the concert flier, I could see only the headline in the work area, and the screen cut off my résumé somewhere between my last two positions. To aid users of lower-resolution displays. both programs let you turn off icons and rulers to increase viewing size. Also, both include a full-page viewing feature, but only Finesse supports moving frames on-screen in this mode-something I sorely missed with Express Publisher. Besides limiting my view of the document in the work area, an EGA adapter causes letters and pictures to look a bit distorted on my screen, compared with the final printed results. I eventually got used to this, but I'd recommend shopping around for a higher-resolution display adapter and monitor.

Starting up. Installing Express Publisher on my hard-disk drive took less time than installing Finesse. That's because Finesse comes on 13 disks, compared with Express Publisher's four. The time was lengthened by the installation of Finesse's high-quality Bitstream typefaces—which took up to 20 minutes for each size of each typeface (font installation time varies with the speed of the computer). When the installation was complete, however, Finesse was equipped with a fine array of font sizes in five different

## Protect Our Natural Resources.

The future of America has always been its children. But drug and alcohol abuse, teenage pregnancy and lack of education are threatening that future. The Boys & Girls Club addresses these problems, providing boys and girls with a positive environment in which to learn and grow. Help protect our greatest resource. Make a contribution today, so they can make one tomorrow.



The Club that beats the streets.

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	9/89	101 Home Business Success Stories	
	11/89	Buyers Guide to Computer Systems	
	12/89	Year End Product Special	
	2/90	Get Organized!	
	6/90	Office on the Go	
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Home Office Computing

# TO ALL THE MEN AND WOMEN WHO DON'T WANT TO WORK FOR SOMEONE ELSE THE REST OF THEIR LIVES

This page is addressed to the thousands of hard working couples and individuals who want to own their own business. It's also the story of a 50-year-old couple who is now living the American Dream.

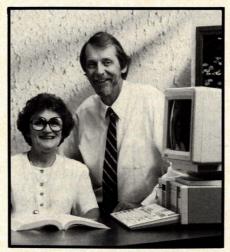
On August 7, 1981, George and Jeanie Douglass from Westfield, Indiana went bankrupt. On September 1, 1981, they borrowed money and bought a computer. With absolutely no computer training they started performing one service for businesses from the basement of their farm. Today, they are able to perform 18 services with their computer and their business does over \$12,000,000 per year.

As they became successful, other couples and individuals asked Jeanie and George if they could train them to do the same thing.

So, they developed methods to train these couples and individuals how to do what they were successfully doing. They designed easy-to-use software, hardware and training material that the average American with no previous computer experience can use. Couples and individuals are now earning \$4,000 to \$10,000 and more per month from their home without leaving the security of their present position.

## You may start one or more of the 18 businesses listed below:

- 1. Computer Telebroadcasting—The computer automatically will make over 1,000 calls a day, give a message, ask questions and record answers.
- Latch Key Kid Assist—Your computer calls the children when they are to be home and they have a button to push in case of an emergency.
- 3. How Are You Today?—Your computer automatically calls the homebound up to 3 times a day to make sure they're OK.
- Help Alert—It's a button that the homebound wear around their neck that they push in an emergency.



George and Jeanie Douglass

- Property Tax Reduction—Show property owners how to reduce their property taxes and earn 50% of the savings.
- Bi-Weekly Mortgage Escrow—Save homeowners \$70,000 on a \$100,000 30 year mortgage and earn a percentage.
- Personalized Children's Books—You make each child a star with their own hardbound book with your computer.
- Computerized Credit Network—You can now offer credit, Social Security and Fraud reports in your area.
- Time, Weather and Lottery Telephone Number—Earn \$1200 to \$1850 per month on one Time & Weather number.
- Santa Call—Your computer makes calls for Santa. Sell to churches, schools, clubs for fund-raising.
- Community Alert—You provide a way to make emergency calls fast for municipality, government and schools.
- Voice Message Center—You make a series of messages available 24 hours a day for churches, real estate, government agencies, etc.
- Voice Mail—Show customers how to receive and answer calls on your computer 24 hours a day.

CIRCLE READER SERVICE 36

- Phone At Your Table—You provide computerized telephones to restaurants for their customers to use at their table.
- 15. 30% AT&T Long Distance Phone Discount—Show anyone how they can save up to 30% on their long distance phone bill—and earn a commission.
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## SOFTWARE REVIEWS

typefaces, including Swiss, Dutch, Courier, Charter, and Symbol. *Express Publisher* version 1.1 comes with three AGFA Compugraphic typefaces: CG Times (Times Roman), CG Triumvirate (Helvetica), and Universe. Version 2.0 also includes Futura Bold II, Cooper Black, CG Bodoni Bold, Microstyle Extended Bold, and Garamond Antiqua. All can be scaled in one-point increments from 6 to 144 points. Additional typefaces can be purchased from Power Up! for \$80 per package and AGFA Compugraphic for \$100 per package.

Since Express Publisher's typefaces scale on the fly, they take up far less disk space than Finesse's, but they require more processing time during normal program operation. Given the choice, I prefer losing the disk space and spending extra setup time if it means that a program will run faster each time I use it.

How they work. Since Express Publisher and Finesse both use graphical, point-and-click-type user interfaces, I found each program's operation to be fairly intuitive. Finesse's GEM user interface looks exactly like the GEM screens I'm used to seeing on Atari ST systems. In fact, if I didn't know I was using a PC compatible, I'd swear I was working on a quick Atari ST. I liked that. Although it took a little more getting used

to, Express Publisher's similar pull-down menu and icon-based user interface worked just as well for me (except for the previously mentioned speed differences).

Aside from a few irregularities in the pull-down menus and screen icons, the main on-screen operations of both programs are very similar. In each, a work area represents the section of a page (or pages in the case of Finesse) you are working on. Both programs let you import graphics or text into a frame, or you may type in text yourself. If a frame is too small to handle any text or image, both programs will let you resize frames, scale images, or link text to another frame for continuation of a story. In addition, both provide rulers, grids, columnization, hyphenation, kerning (smoothing out letter spacing), and other tools for accurate page formatting.

Compatibilities. Word-processor file formats that Finesse imports include STR (WordStar), WPL (First Word Plus), DOC (GEM Write), WPF (WordPerfect), DOC (Microsoft Word), and TXT (ASCII text). Express Publisher accepts ASCII, WordPerfect, and WordStar formats. Finesse imports IMG (GEM Bitmap), PCX or PCC (PC Paintbrush), TIFF (tagged image file format), and GEM (GEM drawing program) graphics only. Express Publisher imports

IMG, GEM, PCX, and TIFF graphics, as well as MAC (*MacPaint*), ART (*First Publisher*), EPS (Encapsulated PostScript), and others

Working with images. Although Express Publisher lets you use more graphic formats. Finesse can do something that Express Publisher cannot. If you have a Logitech ScanMan handheld scanner connected to your computer, then you can scan images, save them, and import them directly into the document you're working on, all without leaving Finesse. This proved to be valuable when I decided I wanted to merge a photo of a band into the concert flier. It worked so well that I also imported a picture of myself into my résumé. Since Finesse can export scanned images in the same formats it imports. I was then able to import these same scanned images into my Express Publisher documents.

When it comes to creating and editing your own graphics, *Express Publisher* offers the edge. Aside from the line, box, fill, scale, and crop features it shares with *Finesse*, *Express Publisher* also creates rounded boxes, ellipses, and diagonal lines, and magnifies some types of images for detailed pixel-by-pixel editing. These are features I normally rely on my painting program to take care of, but it saves time not to have to



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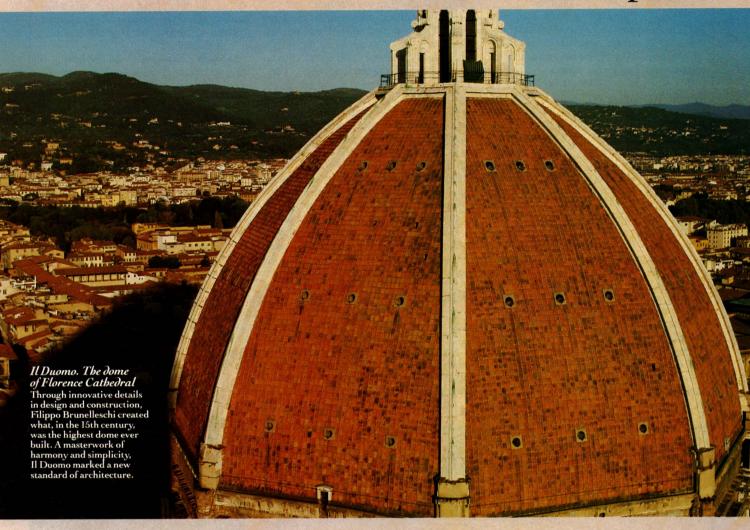
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## SOFTWARE REVIEWS

leave the DTP program just to make a rounded box or clean up a picture.

To help you get off to a quick start, both Express Publisher and Finesse include preformatted document templates for newsletters, résumés, letters, menus, memos, calendars, and brochures. Using a template means that you don't have to re-create the overall page layout each time; you simply fill in the blanks with fresh text and images. Also included with both packages are many samples of high-resolution TIFF graphics. While I found many cute pictures in these clip-art libraries, there was very little I could use in the projects I was working on. Instead, I kept finding myself gravitating back to Finesse and the ScanMan scanner to capture custom images.

**Printing the pages.** When I finished assembling my flier and résumé, it came time to print the results and do some final tightening up. First I loaded the flier into *Finesse* and printed it to my Epson LQ-compatible dot-matrix printer. Printing a page at 180-by-180-dot-per-inch (dpi) resolution took only a few minutes and, compared with what I was seeing on-screen in EGA mode, the results were far better than I expected. The edges of even the tallest letters generated with the Bitstream fonts were very smooth. Most impressive to me, overall, was

how quickly Finesse printed the document.

Next I loaded Express Publisher and sent the almost identical document to the same printer. Then I waited and waited, and just when I was about to give up, the printer started slowly printing. After about 10 minutes my flier was printed, and when I compared it with the one done with Finesse, the quality was about the same. I printed my résumé following this procedure and got the same results. It took Express Publisher much longer to print virtually the same document, but the resulting résumé was on par with the one I printed with Finesse.

Help. Both Express Publisher and Finesse come with useful on-line help and wellwritten manuals that include clearly spelledout tutorials, reference sections, and indexes. Finesse also includes a poster displaying the Bitstream fonts and a handy reference card, something I missed in the Express Publisher package. Also, to my satisfaction, both Power Up! and Logitech provide unlimited, free (although not toll-free) telephone support. The advice the Power Up! people gave me greatly sped things up with Express Publisher, and, when I couldn't get my ScanMan scanner to work properly with Finesse, a Logitech customer-service agent guided me through the reinstallation of the scanner drivers. Once I got rolling with both

programs, I did not experience any system crashes and didn't have much trouble understanding the error messages I occasionally received, since they are explicitly described in both manuals.

**Summary.** Although I like the quality of the final output I received from both Express Publisher and Finesse, I was disappointed at every stage of production with the slow speed of Express Publisher. (However, the latest version previewed, 2.0, seems to have increased its operating speed.) When I used Finesse, I was surprised at its speed, especially when printing.

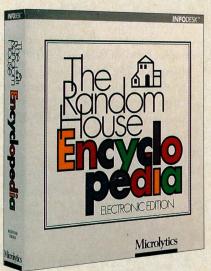
I was impressed by Express Publisher's ability to import many file formats and to let me edit graphics. But I must admit I was more impressed with Finesse's scanning feature, which let me scan the visual images that supported the documents I was making at up to 400-dpi resolution.

I enjoyed looking at a shrunken version of the page I was working on in *Express Publisher*, but I was delighted when I found out that I could do things with the same fullpage view in *Finesse*. In general, both of these programs are impressive, but for me *Finesse* is the clear winner.

—JOEY LATIMER

Continued on page 88

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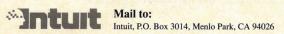
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## Quick and Easy DTP Options

Well-known Mac page-layout programs (PageMaker, Quark XPress, and Design Studio) are expensive and complex. They require a lot of memory and expensive peripherals to operate efficiently. In many ways, these programs are tools best used by professional graphic designers.

Much benefit, little bother. Many people, however, want the benefits of desktop publishing (DTP) but not the bother. They create pages only occasionally, or they don't need the full range of DTP features. They simply want to jazz up an annual presentation, put together a snappy-looking newsletter or flier, or just combine text and graphics from a variety of sources into a final report without resorting to an X-Acto knife and rubber cement.

Fortunately, a new class of intermediate page-layout programs has emerged that better suits the needs of the casual DTP user. Less expensive and less complicated than the advanced programs, they offer a set of features extensive enough to handle a wide range of needs, yet which are straightforward and relatively easy to learn.

Two such programs for the Mac are *Publish-It!* (MS-DOS version available; they also publish a more basic package called *Publish-It! Easy*) and *Springboard Publisher II*. While both products are offered as easy-to-use DTP software, they have distinctly different styles.

Getting started. The street price of *Publish-It!* is a bit more than twice the cost of *Springboard*, and you begin to see the difference as soon as you open the boxes. Whereas *Springboard* is supplied on two disks, *Publish-It!* comes on four. The extra disks hold a dictionary twice the size of *Springboard*'s, a thesaurus, and a much

more extensive library of sample formats. But bigger is not always better, especially when you are looking for quick and easy.

The documentation for both programs consists of an introductory tutorial and a reference manual. As befits documentation for a DTP program, these manuals are beautifully laid out, full of attractive and informative illustrations. As I browsed through the reference manuals, I found them equally well written and clear (although the *Publish-It!* manual has a serious flaw that I will discuss later), but I noticed that *Publish-It!* offered a lot of graphics features that seemed to be missing from *Springboard*.

Surprising memory requirements. It seems paradoxical to me that *Publish-It!* can run on a 512Ke Mac, while *Springboard* needs at least 1MB. After all, bigger, more expensive programs generally need more elbowroom, and the manuals stated that both programs needed about the same amount of memory (800K or so) to run under MultiFinder.

Apparently, however, *Publish-It!* uses memory much more efficiently than *Springboard*, especially with complex documents and large-screen monitors. *Springboard* needed almost 3MB of RAM to run on a Mac II with a two-page color display, while *Publish-It!* had plenty of room with less than 700K allocated to it. Adding RAM to your Mac is generally a good idea, but if you have to add it to run *Springboard* efficiently, the program's apparent cost advantage turns into a disadvantage.

Not surprising was that both programs are easier and faster to use when installed on a hard drive. The files supplied with *Spring-board* occupy about 1.5MB of disk space, while the *Publish-It!* set needs about 2.6MB. Add to this the variety of fonts that you want available for DTP, and it's obvious that a two-floppy system will require a lot of disk swapping to accommodate all of the files.

Basic program styles. I followed the tutorial guides for both programs step by step. While each process took about an hour, the sample newsletter created in *Publish-It!* was more complex and covered a broader range of features than the simpler, more straightforward newsletter created in *Springboard*.

Springboard is text-based and its basic operating style is very similar to a word processor's. While both programs use frames—defined areas on a page that contain text or graphics—Springboard has a default, background text frame that covers the entire usable area of the page. You could quite easily make Springboard your regular word processor, using the background frame as a normal writing area, and insert additional text or graphics frames to handle headers, footers, footnotes, quotes, and illustrations as needed.

## Publish-It!



Publish-It! can import files from a variety of applications, including Microsoft Excel.

## Rating: ★ ★ ★

AT A GLANCE: Feature-filled page-layout software with strong draw-program skills. DOCUMENTATION: Would be excellent, except for amazing lack of info on object-oriented drawing capabilities.

ERROR HANDLING: Excellent—unable to crash and no incomprehensible error codes. EASE OF USE: Could be easier; tools and menus a bit confusing.

SUPPORT: Free but not toll-free for 90 days, starting with first call (I had difficulty getting through); \$100 for toll-free, unlimited support and updates for a year.

## **VERSION REVIEWED: 1.1**

## PRICE: \$395

SYSTEM REQUIREMENTS: 512Ke Macintosh\*; one 800K drive (two drives recommended); System 4.2 or higher (6.0 or higher recommended). Also for 512K IBM compatible.

PUBLISHER: Timeworks, Inc., 444 Lake Cook Rd., Deerfield, IL 60015; (708) 948-9200

## **Springboard Publisher II**



Springboard Publisher is text-based and uses frames to contain either text or graphics.

## Rating: ★ ★

AT A GLANCE: Text-based page-layout, with basic operating style much like a word processor. Inexpensive and easy to learn, but slow screen operations.

DOCUMENTATION: Would be excellent if tutorial covered more ground.

ERROR HANDLING: Excellent—unable to crash and no incomprehensible error codes.

EASE OF USE: Annoying to watch screen redraw, but otherwise easy.

SUPPORT: Good enough, but must usually leave message for callback.

**VERSION REVIEWED: 2.0** 

## PRICE: \$200

SYSTEM REQUIREMENTS: 1MB Macintosh (2MB with large-screen monitor); hard-disk drive; System 4.2 or higher.

PUBLISHER: Spinnaker Software, 201 Broadway, Cambridge, MA 02139; (617) 494-1200, (800) 826-0706

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Publish-It!, on the other hand, operates much more like a graphics program. The default operating mode is object-oriented graphics, and an array of tool icons on the left edge of the screen can create and manipulate text and paint-style graphics frames. Since the default mode is not clearly documented (the flaw previously mentioned), getting started is a bit confusing. Once you realize that Publish-It! is a draw program at heart, though, operating the program becomes much more intuitive.

Perhaps because it is based on objectoriented graphics, Publish-It! offers more layout features and power than Springboard. You can create shaded and inverse text, precisely sized and positioned page formats, overlaid text and graphics effects, as well as draw graphics-all tasks that are difficult or impossible to do in Springboard. If it's a bit harder to get started with Publish-It!, you can ultimately do more with it.

However, Springboard is easier and faster than Publish-It! for handling text. Springboard's text frames give you rulers to set margins, tabs, and indents, and each frame has a "typing window," where you can enter and edit large quantities of text without flipping from page to page. And because Springboard's feature set isn't quite as broad as Publish-It!'s, you'll probably get

up to speed with the basics more quickly. Some special PostScript effects on text and draw graphics (such as for display type) can be achieved with the supplied Smart Art desk accessory, but only a limited library of effects is included with Springboard. To get more effects, you must buy them.

On-screen view. Both programs let you toggle among various page views. The most useful views are actual size (with full detail), full page (to see the entire layout), and fit to screen (somewhere in between). Both programs can also display facing pages, which is handy for doing brochures or twopage spreads.

I think that Springboard's reduced views have a slight edge in quality and in changing between views. But Publish-It!'s screen redrawing was considerably faster, even on a Mac II, giving the program a snappier feel. While occasional DTP users will probably make do with their standard display, I found a large screen infinitely preferable when doing large layouts.

Using other files. A good page-layout program must be able to easily absorb files from a wide variety of sources. Both programs handily meet that requirement. Files from most popular word processors and ly into a text or graphics frame (neither problems really should be attacked.

program can yet handle MacWrite II files directly, but this is not a big problem, since MacWrite II can save files in several standard formats). Both programs can read and resize EPS-format graphics, though neither can edit the graphic.

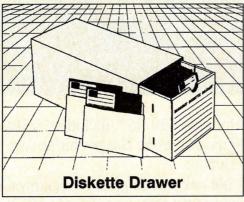
In addition, Publish-It! can import TIFF graphics produced by most scanners (black and white only; no gray scale) and straight PostScript description files (though the latter is of limited interest for business users).

Because Springboard Publisher cannot create or edit object-oriented graphics, you must have a draw program to handle these functions, especially since draw programs can produce PostScript fonts at full resolution (paint programs convert text to a bitmap). Publish-It! users will need a good word processor, as it is much more convenient (despite Publish-It!'s excellent spelling checker and thesaurus) to create large amounts of text that way.

The complaint department. I already mentioned Springboard Publisher's preference for so much RAM and its sluggishness when updating the screen. These are unfortunate lapses in what is otherwise a simple and inexpensive product. While the publisher advises that no updates to Springboard Pubpaint-and-draw programs can be read direct- lisher II are planned in the near future, these

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### I Sold What I Knew

And what did I know best? It was computers. My first reports appeared in 1986: How To Buy A Business Computer and How To Use A Business Computer. They are still in print and I sell copies of them, from time to time. But they are not my best sellers. My December 1989 book, Make Money Moonlighting! The 4 Best Ways to Earn Money With Your Computer and The 4 Traps To Avoid has sold 3,748 copies.

## Money In My Pocket

Perhaps 3,748 copies doesn't seem like very many. However, I net \$7.22 per book after

- Create special reports, booklets, and pamphlets so that you can do the job one time and sell thousands of copies. Your earnings are unlimited.
- Automate handling inquiries, fulfilling orders, and generating mailing labels so that you can operate your business more efficiently and have more leisure time.
- Use HELP which consists of 55 topics and 208 screens of information to prepare you to be a publisher.

services. I knew that there had to be a better way. I was determined to find the very best way to earn money working at home with my computer.

## Seven Years of Research

In 1983 I started collecting information about people who made money publishing special reports. They wrote and sold copies of the same report over and over again. I liked the idea of working just one time and being paid everytime a report was sold.

If I could do what they did, I could make money 24 hours a day — I could make money while I was working another job — I could make money while I was consulting for a client — I could make money when I was asleep — I could make money when I was on vacation — I could make money and live anywhere I chose. It didn't take long for me to realize that producing and selling special reports is a true money machine.

## I Had Doubts

Yet I didn't know where to begin. I hadn't operated a publishing business before. I wasn't a writer. I didn't know where to find customers. I didn't like selling. I had bills to pay. I didn't own any expensive desktop publishing equipment. At the time these problems seemed immense.

production, advertising, shipping & handling are subtracted. That's \$27,060.

One of the most tightly kept money-making secrets for the desktop publisher is that people who buy one publication will buy another one! In fact 15.3% of the people who buy *Make Money Moonlighting!* buy one or more of my other publications. That's 573 more sales which average \$48.37 each. So, that's another \$27,720. Voila \$54,780!

## **A Business That Grows**

Every year I sell more products to more people. My desktop earnings keep increasing. It's taken me 4 years to reach this level of success. To date I have published four books and three special reports. My fifth book will be ready in the winter of 1991 and I expect to sell a lot of them. Since my first print run is 5,000 copies. and the book sells for \$30, I could net \$100,000 the first year alone. It's exciting just to think about it.

### It's Your Turn Now

I've developed software — Insider Secrets For The Desktop Publisher — to help you do the same things I have done. Use Insider Secrets as a roadmap to better your futur Use Insider Secrets to help you earn more money. Use Insider Secrets to run your desktop publishing business.

## **What Other People Say**

It works so well that Larry Storer, Editor, Wang In The News wrote in the April 1990 issue, "[Mortz's] advice is sound and he suggests ideas I hadn't considered. I tested his tips on marketing and they do work." It works so well that Stephanie Zvirin of Booklist wrote in the December 1989 issue, "Enterprising individuals who own personal computers will be interested in this smart selective guide."

### Commitment

If you're looking for a get-rich-quick scheme, this isn't it. There's no shortcut to success. T've done it, and you can do it, too. It's not difficult when you know how. But you must be willing to put in your time and do everything it takes to become a desktop publisher.

### **Business Know-How**

Insider Secrets shows you how to find a niche. It shows you how to develop products tailored for your niche-market customers. This way you won't have to do any selling. Your customers will buy your reports because you meet their requirements and are responsive to their needs.

### Information Age Software

Insider Secrets For The Desktop Publisher is NOT an accounting package . . . and it's NOT a page-layout program. It helps you in two distinct ways: First, it automates the day to day operation of your business. Second, ON-LINE HELP shows you how to begin, how to produce products, how to find customers, and how to develop your business. You profit from this knowledge-base by earning the most money possible from each special report you offer.

Insider Secrets is IBM compatible and runs under MS-DOS 3.0 or higher. You can obtain your copy only from the American Institute of Computer Technology.

### HELP

You get help both from the HELP menu, and interactively while using the program. Use HELP to learn how to run the program and guide yourself through the business phases. Expect a lot of HELP because there is a lot — 55 topics and 208 screens of information.

### The Low Price

The price of Insider Secrets is \$34.95 postpaid. It's so low you may be wondering how I can offer software this powerful to you for this low price. It's the American Institute of Computer Technology that makes it possible. The Institute is chartered to disseminate information. It's not necessary for the Institute to make maximum profit by the sale of its products. You benefit by getting powerful money-making software at low cost, and the Institute benefits by gaining your support.

## Easy To Use and Learn

Insider Secrets is different than most of the software that you've encountered before. It's designed without complex features which

you seldom require and never use. Best of all there's no hard-to-understand manual for you to master. Everything is ON-LINE. Consequently, the learning curve for the soft-

## **Your Guarantee**

As the president of the American Institute of Computer Technology and developer of Insider Secrets For The Desktop



The Desktop
Publisher I personally guarantee your 100% satisfaction. I believe in the value of Insider Secrets and I want you to try it. Order the software today. If it is not exactly what you need, you may return it for a full refund at any time, for any reason—no questions asked.

John R. Mortz,
President, The American Institute
of Computer Technology
30 N. Raymond Ave. Suite 714
Pasadena, CA 91103

ware is short. Just insert your disk, choose HELP and start making money.

## Take Charge of Your Life

Don't put off getting your copy of *Insider Secrets For The Desktop Publisher*. Do it today. If you want to earn more money, live anywhere you choose, and become financially independent, Desktop Publishing could be the right career for you!

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### OFTWARE REVIEWS

The lack of documentation of Publish-It!'s default object-oriented draw mode detracts from the program's ease of learning. While the manuals are otherwise excellent, and advance smoothly from basic to advanced concepts, this serious oversight should also be corrected.

I also found Publish-It!'s cascading menus a bit cluttered and several of the tool icons more than a little obscure. The pensize and pen-pattern icons should be redesigned or replaced with letters, and the graphic conversion and bit-map blending icons should go on the menu and be re-

placed with icons for indents and viewing size, two frequently used menu items.

Text can be rotated any number of degrees, yet Publish-It! will display only 90degree increments on the screen. If a Mac program offers a feature, it should be shown directly on-screen (Springboard's Smart Art desk accessory does this correctly).

Summary. Even though Publish-It! is more expensive than Springboard Publisher, it's a better value. It has more features, tion grow. Hang on to your word processor, needs less memory, and requires less external software. In the long run, Publish-It! will do more for less.

If most of your page-layout needs are text-based, your DTP aspirations modest, and you already have a draw program (especially SuperPaint 2.0), then Springboard is a good choice. You may even want to consider this program if you want more formatting oomph from a word processor.

Otherwise, Publish-It! is the way to go. You can get started quickly and the program will keep pace as your skills and sophisticathough, because Publish-It!'s real strength is integration, not creation.

—CHARLES H. GAJEWAY

## DTP with Great Graphics **Avagio Publishing System**

Avagio Publishing System: You get a lot to like

Although slow to print, Avagio offers outstanding printed results.

Rating: \*

AT A GLANCE: Extraordinary print quality, glacially slow screen and printing operations. Includes large library of templates and graphics. DOCUMENTATION: Well illustrated, but barely adequate index and explanations of complex tasks. ERROR HANDLING: Seems well protected against crashes; forbidden or irrelevant activities locked out.

EASE OF USE: Some features easy, others much less so; overall, could be easier to learn and use. SUPPORT: Friendly, knowledgeable, toll-free for registered owners.

**VERSION REVIEWED: 1.2** 

PRICE: \$299

SYSTEM REQUIREMENTS: 640K IBM compatible; hard-disk drive; CGA, EGA, VGA, or Hercules; mouse; DOS 2.1 or higher; 5.25- and 3.5-inch PUBLISHER: Kyocera-Unison World, 1321 Harbor Bay Pkwy., Alameda, CA 94501; (415) 748-

You've sprung for a high-quality printer perhaps a laser or ink jet—and your present word processor is adequate for your regular writing. But there's that super printer putting out lackluster text when it could be made to perform spectacular tricks on the page if you had the right software. But the

best desktop-publishing (DTP) programs are just too expensive. Is there a happy compromise between ho-hum and wow? The Avagio Publishing System could be it.

While the many features I mention seem, at first glance, to put Avagio into the Ventura and PageMaker class in terms of document design and formatting, this is not a program you will want to use more than occasionally. In its favor, it does automate certain design operations like text-to-frame sizing. But it will not automatically flow text neatly around an object other than a predefined rectangle (or set of grouped rectangles) into which you intend to place pictures or other graphic objects.

Avagio-delivered compressed on seven 5.25-inch or four 3.5-inch disks—takes up 4.5MB of hard-disk space. With all this programming, you would think the designers could have figured out how to speed up, for example, screen rewriting, which in some instances takes so long you wonder whether the program has died. Only the clock image that pops up reminds you that the program's still working.

I also discovered that a full page of 300dot-per-inch text and graphics needs at least 1.5MB of printer memory. Forget this on my HP LaserJet Plus with its measly 512K. As it happens, I have another laser printer, one with 3MB of memory, and I confess to being dazzled by the quality of the graphics Avagio squeezes out of that printer. Avagio includes a routine called Mingle that lets you do impressive shadings and dark/light overlappings. The downside is that it takes a long time to create a "mingled" graphic.

Avagio's user interface is roughly like that of Windows, with a menu bar across the top from which you access the program's functions and submenus. You can change screen colors and elect whether you want pull-down, drop-down, or pop-up menus. You can drag certain screen overlays—for instance, the calculator, the toolbox, or the miniature representation of the page you're working on-to any convenient location on the screen, and eliminate or retrieve them as you please. I found the user interface to be

pleasantly cooperative.

In addition to the expected layout capabilities—for example, kerning, text flow around images, and precise measurements for text and graphics placement—Avagio provides four proprietary outlined typefaces in nine styles that can be scaled in one-point increments from 6 to 500 points. A library of 150 images-again, in Avagio's own format (also in outlined form)—will probably cover most, but not all, of your decorative needs. Avagio also imports and converts PCX, PIC, or TIFF graphics

Additionally, the program takes in text from just about any source, converting from the popular word processors as well as ordinary ASCII. So, in theory, Avagio should be the best thing since chocolate tofu, yet it's not. I love the printed output, but I hate the required effort expended in page layout and time wasted waiting for things to happen. But the fact that Avagio gives you a library of templates does help.

While the three-ring manual gives you the idea that you can do wonderful things with Avagio (and you can), many of the explanations are inadequate, hence frustrating—especially to someone without experience with this type of software. The manual's index is only adequate.

An anonymous, nontoll-free call for help on several matters resulted in a friendly chat that yielded a lot of information. (The publisher supplies a toll-free support line for registered owners.) After satisfying myself about the quality of technical help, I dropped my anonymity. Only then did I learn that version 1.2 includes a new manual that owners of previous versions can claim simply by calling the company and supplying their registration number or sending in their registration card.

What are we to do about Avagio? The printed output can prove so impressive that you may be willing to accept the program's ineptitudes. With diligence, you can make Avagio behave and produce documents that will look little different from those produced with costly PostScript systems.

—HENRY F. BEECHHOLD

## **Berlitz Announces** A Breakthrough (Literally) in Self-Study Learning.

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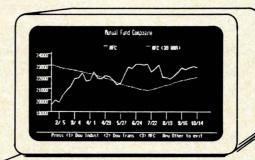
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## BUSINESS

the United States and Canada.

1. Windows v3.0 Microsoft Corp.

These best-seller lists, prepared exclusively for HOME-OFFICE COMPUTING by Egghead Discount Software, are based on July sales at 191 Egghead stores in

- 2. WordPerfect v5.1 WordPerfect Corp.
- 3. Grammatik IV Reference Software
- 4. PC Works v2.0 Microsoft Corp.
- **5.** Turbo C++ Pro Borland International
- **6.** Grammatik Windows Reference Software **7.** 1-2-3 v2.2
- Lotus Development Corp.

  8. PC Excel v2.10
- Microsoft Corp.

  9. Word for Windows v1.0
  Microsoft Corp.
- **10.** Turbo C++

  Borland International

## HOME/SMALL BUSINESS

- 1. Quicken v3.0 Intuit Inc.
- Banner Blue

  4. New Print Shop
- Broderbund Software

  5. Calendar Creator Plus
  Power Up! Software
- **6.** Hyatt Legal Services Home Lawyer *MECA*
- 7. Softype
- Mediagenic

  8. PC Globe v3.0

  PC Globe
- 9. Resume Maker Individual
- **10.** PC Nations PC Globe

### UTILITIES

- 1. PC Tools Deluxe v6
  Central Point Software
- 2. Menuworks
  PC Dynamic
- 3. First Apps v1.0 HDC
- **4.** PagePak Bus Volume I Market Graphics
- 5. Procomm Plus

  Data Storm
- **6.** Norton Utilities Adv. v4 Peter Norton Software
- 7. QEMM 386 v5.0 w/Manifest Ouarterdeck
- 8. Windows Express v3.0

  HDC
- **9.** Fastback + v2.1 Fifth Generation
- 10. Virex PC Microco Software

## **ENTERTAINMENT**

- 1. Flight Simulator v4.0 Microsoft Inc.
- 2. SimCity

  Maxis Software/Broderbund
- 3. Teenage Mutant Ninja Turtles
- 4. Ultima VI Origin Systems
- 5. Tetris
  Spectrum Holobyte
- **6.** AD&D Secret of the Silver Strategic Simulations Inc.
- 7. The Punisher Medalist
- 8. Leisure Suit Larry III Sierra On-Line
- 9. Colonel's Bequest Sierra On-Line
- 10. Casino Gambling

  Intracorp

# MACINTOS

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## BUSINESS

- **1.** Grammatik Mac Reference Software
- 2. MyAdvancedMailList MySoftware Company
- 3. Word v4.0

  Microsoft Inc.
- 4. Works v2.0

  Microsoft Inc.
- 5. Excel v2.2

  Microsoft Inc.
- 6. PageMaker v4.0

  Aldus
- 7. AccPac Bedford Simply Accounting v1.03 Computer Associates
- 8. Deltagraph v1.5

  Deltapoint
- 9. At Once v1.0

  Layered
- 10. Wingz v1.1 Informix

## HOME/SMALL BUSINESS

- 1. Quicken v1.5
- 2. MacInTax/89
  Softview
- 3. The Print Shop Broderbund Software
- **4.** Address Book Plus Power Up! Software
- **5.** Calendar Creator v1.0 Power Up! Software
- **6.** MyAdvancedLabelMaker MySoftware Company
- 7. Publish-It! Easy TimeWorks
- 8. Will Maker v3.0 Nolo Press
- **9.** Synchronicity v1.0 Vision Software
- **10.** Resume Kit Spinnaker Software

## UTILITIES

- 1. SAM v2.0 Symantec Corp.
- 2. Type Manager v1.2

  Adobe Systems
- **3.** Pyro v4.0 Fifth Generation
- 4. Virex
- Microco Software

  5. Type Reunion
- Adobe Systems

  6. SUM II (Symantec Utilities for Mac)
- Symantec Corp.
  7. Suitcase II v1.2
  Fifth Generation
- 8. After Dark v1.1

  Berkeley Software
- 9. Super Laser Spool v2.02 Super Mac
- 10. Adobe Type Set #1

  Adobe Systems

## ENTERTAINMENT

- 1. SimCity
  Maxis Software/Broderbund
- 2. Tetris
  Spectrum Holobyte
- **3.** Falcon v2.2 Spectrum Holobyte
- 4. Might & Magic II
  New World
- **5.** The Duel: Test Drive II Accolade
- **6.** Playroom Broderbund Software
- 7. Flight Simulator v1.02 Microsoft Inc.
- 8. Chess Master 2100 Software Toolworks
- 9. Gauntlet Mindscape
- **10.** Life & Death The Software Toolworks/EA

# APPLE

## **BUSINESS**

- 1. Appleworks v3.0 Claris Corp.
- **2.** Appleworks GS v1.1 Claris Corp.
- 3. WordPerfect v2.1 WordPerfect Corp.
- 4. GEOS v2.1

  Berkeley Software
- **5.** WordPerfect v1.1 WordPerfect Corp.
- 6. Swiftax
  Timeworks Inc.
  7. Graph-It!
- 7. Graph-It!

  Timeworks Inc.

  8. GS File
- Brown Waugh

  9. Super Patch v6.1

  Ouality
- 10. Publish-It! v2.0 Design I Timeworks Inc.

## HOME/SMALL BUSINESS

- **1.** The Print Shop w/Graphics Library Broderbund Software
- 2. Quicken Intuit Inc.
- 3. Bank Street Writer Plus Broderbund Software
- **4.** Print Shop Graphics Library Broderbund Software
- 5. MyMailList
  MySoftware Company
- MECC
  8. Deluxe Write/Deluxe Paint
- Electronic Arts

  9. Print Shop Companion
  Broderbund Software
- **10.** GeoFile Berkeley Software

## UTILITIES

- 1. Copy II v9 Central Point Software
- 2. Timeout: Quickspell Beagle Brothers
- 3. Timeout: ReportWriter Beagle Brothers
- 4. Timeout: GS Font Editor
- Beagle Brothers

  5. Timeout: Super Fonts
  Beagle Brothers
- 6. GEOS

  Beagle Brothers
- 7. Timeout: Filemaster Beagle Brothers
- 8. Timeout: Sidespread Beagle Brothers9. Sideways v2.11
- Funk

  10. Repairworks

  Quality

## **ENTERTAINMENT**

- 1. Hardball
- 2. Tetris
- Spectrum Holobyte
  3. Clue
  Virgin Mastertronic
- 4. The Last Ninja
- 5. Task Force Britannica Software
- 6. Arkanoid II/The Revenge of Doh

  Taito Software
- 7. Qix
  Taito Software
- 8. Playroom

  Broderbund Software
- **9.** The Hunt for Red October The Software Toolworks/EA
- 10. Bubble Bobble Taito Software

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## I Wanna Be a Remote Node

## **BY NICK SULLIVAN**



"My boss says I can work from home if I can figure out how to tie in to the office network." the woman was saving. She had called out of the blue and was in the dark. I was in the dark

myself, though I knew there must be a solution, so I gave her a few names to call. A week later I got another call, from a man who wanted to move to a new city but keep his current job, a sleight of hand that would require a link to his office network. I was beginning to get the point: Electronic mail is great, but often it isn't good enough.

As more offices install local area networks, and as more professionals separate themselves from the central office, the demand to attach remote nodes to a local network is growing. Many professionals need access to a large centralized database, an inhouse mail system, a file server, and peripherals, such as scanners and laser printers. If that's the only reason they're commuting to the office, certainly technology has an answer. After all, it's 1990.

It's hard for me to believe that I can find fault with electronic mail and fax machines. which have kept me connected to the office for so many years. But life in the central office is changing, and the central office is the straw that stirs the drink. So I've been researching the matter (code-named Project Timbuktu), because I'd like to be a remote node on a network myself.

One solution, proffered by Lance Paavola, HOME-OFFICE COMPUTING's technical director, is to connect directly to the office file server by modem. If your office runs a 3Com 3Plus network, for example, vou can run 3Plus Remote software and become a remote node on the network.

Another solution is to use so-called remote software, such as pcAnywhere III (DMA), Timbuktu/Remote 2.0 (Farallon), or CloseUp LAN (Norton-Lambert). Both the host and remote computers must be running separate versions of the program; the host computer could be the office file server or

"My boss says I can work from home if I can figure out how to tie in to the office network." She had called out of the blue and was in the dark.

any other computer in the office, whether it's on a network or not.

Once connected, the remote computer can run programs on the host computer, read files, and access networks and peripherals to which the host is connected. The person in charge of the host software can set various password-controlled security levels, depending on what he or she wants the remote callers to see and do.

'The computer is a communications device," said Reese M. Jones, president of Farallon, when I met him in his booth at MacWorld Expo. "I think of it as a telephone that happens to have a screen. If I'm in an office and call someone or something down the hall. I may as well be at home.'

I told Reese about the calls I'd been getting from wanna-be remote nodes. He nodded nonchalantly, as if he'd been getting such calls since his high school days. He just said, "The national capacity for commuting is at a limit. The toll it's taking on people is huge."

Robert H. Wolf, vice president of sales for DMA, who traveled to my house to present his case, says that pcAnywhere III is a perfect tool for salespeople who need constant access to a company database, "Business is lightning-fast these days. If you're in California and the New York office is closed. inability to get the latest information could cost you a lot." Virginia Bare, DMA's director of marketing and a single parent, sees remote software as a potential solution for working mothers. "You can't be in an office from 9:00 to 5:00 every day, but that doesn't mean you can't work from 9:00 to 5:00."

I haven't tried these next-step communications tools yet, mainly because I know it will take time and energy to get up and running. In addition, my current communications setup of electronic mail and fax machines is working fine. There's no immediate need to move to the next step.

I also worry that the quality of the phone lines between my house and the office will give me trouble. Whether I'm calling another computer or a dedicated file server, such remote computing virtually requires 9600bps modems to be efficient and cost-effective. As it is, I have periodic transmission problems with my 2400-bps modem.

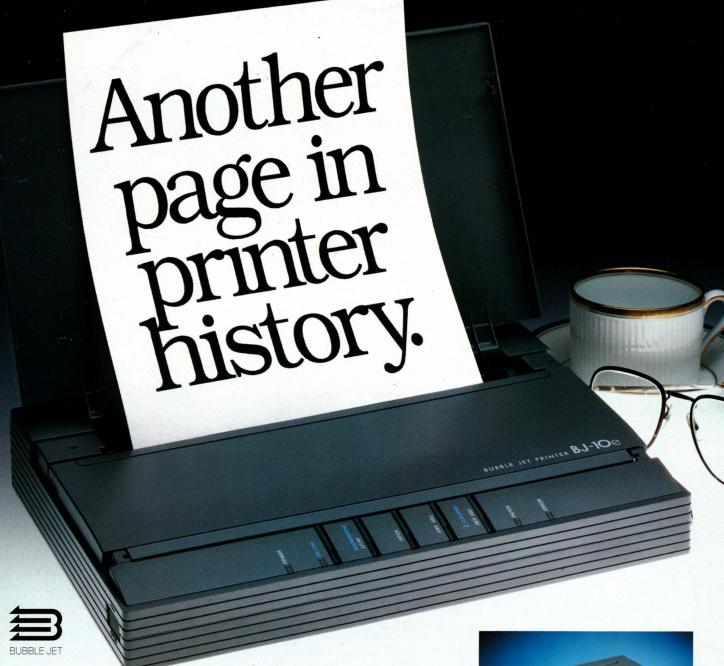
But I can see change coming, and I can see why others would want to wire themselves to a network immediately. I could send a message to my editor on the network, and it would arrive on her computer even if she were working on another task.

With upcoming products, such as the newly introduced Desktop Mail from Farallon, I'd be able to send highly stylized documents, with voice recordings, graphics, and animations, right to another computer. If that computer were on the network, anyone else could view it.

Using electronic mail is like talking through a ham radio, where I talk and say "Over," indicating that the other person can talk. As phone lines improve, modems get faster, and new products emerge, realtime, two-way computer communications will become the vogue.

Not everyone needs that, just as not everyone needs old-fashioned electronic mail. But some people need direct two-way communications more than they need electronic mail, like the two people who called me. I hope they're reading this in the comfort of their home offices.

Senior editor NICK SULLIVAN, author of Computer Power for Your Small Business: A Guide from Home-Office Computing, can be reached on CompuServe (ID: 76703,744) or MCI Mail (ID: NSULLIVAN).



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